

# SOCIOMETRY

*A Journal of Inter-Personal Relations*

A QUARTERLY

VOLUME II

OCTOBER, 1939

No. 4

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Beacon, New York

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PRINTED IN U.S.A.

*Lithoprinted by Edwards Brothers, Inc., Lithoprinters and Publishers  
Ann Arbor, Michigan, 1939*

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## INFORMAL SOCIAL PARTICIPATION IN THE PLANNED RURAL COMMUNITIES<sup>1</sup>

Charles P. Loomis\*

As sociology is the study of human interrelationships, it is largely concerned with the origin and the characteristics of formal and informal groupings. The modern resettlement community offers an ideal opportunity for observation and analysis of both the origins and the functionings of such groupings. In this article those informal relationships between individuals and families which occur for the most part outside of the established social agencies of the community will receive special attention.

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\*This is the last in a series of articles appearing in this Journal. Copies of two of these articles may be procured by sending to the Division of Farm Population and Rural Welfare, Bureau of Agricultural Economics, United States Department of Agriculture, Washington, D.C.--Ed.

1. For a complete description of the communities studied see Sociometry, Volume II, No. 3, June, 1939. This is the fourth article in a series on community studies.

The seven resettlement communities to which the preliminary findings reported in this paper refer are located in the South and Southwest. The three other older communities included as controls consist of a closely knit Dutch village in Illinois, an Indian-Mexican village in New Mexico, and an area on an irrigation project in Oregon and California. The resettlement projects rank in size from Dyess Colony, Arkansas, with 484 families, to Ropesville, Texas, with 31 families. They range from subsistence homesteads to a project composed of large enterprises with an average of 120 acres. The settlers range from the poorest type of relief client to large-scale farmers and ranchers displaced by the land purchase program.

These control communities were surveyed in connection with other studies and do not represent the best controls obtainable. They are all extreme in certain features. Few American communities are as closely knit by blood and religious ties as is South Holland, a suburb of Chicago. This rural community has accomplished the remarkable feat of insulating itself from important traits characteristic of the

### How the Associating Families<sup>2</sup> Became Acquainted

In most rural sections in America it is customary for an established resident of a neighborhood to visit new arrivals of his own or of a similar social status. It is pertinent, therefore, that 40 per cent of the interviewed families on 6 resettlement projects<sup>2</sup> became acquainted with those families with whom they were visiting at the time of study through a special visit on the part of one of the families involved. In contrast, only 6 per cent of the more urbanized settlers of Klamath Falls met in this way. Of the resettlement families who associated, about one-fourth became acquainted under circumstances more or less fortuitous, such as meeting on the road, at work, on trips conducted by officials to inspect the project, at various project agencies other than formal social organizations, or through common acquaintances and relatives (Table 1). Again Klamath Falls stands in contrast to the resettlement projects in that over one-half of its families reported meeting under such circumstances--largely, however, because

(Footnote continued) adjacent urban centers. The Mexican-Indian Village retains many diluted Indian cultural traits, but its citizens are farm laborers belonging to the Catholic Church. The Klamath Falls Irrigation Project is unique in that its settlers came from all parts of the country and all professions to take up valuable homesteads which placed them among the most prosperous commercial farmers of the Nation. The holdings in this latter project were first occupied nine years previous to the field investigation. The community has no traditions which root in the past and the settlers have few common bonds except their dependence upon the market for their livelihood and the fact that many were World War veterans. In many respects it is an urbanized farming area.

2. A family that associates with one interviewed family may associate with several other interviewed families. This means, for example, that a given family may be counted more than once as visiting, or that one family may be involved in several visiting associations. This holds as well for borrowing and exchange of work. This explains why the "number of associating families" will exceed the "number of interviewed families" throughout the text and tables of this article.
3. No data collected for Cumberland Homesteads.

Table 1. CIRCUMSTANCES UNDER WHICH VISITING FAMILIES BECAME ACQUAINTED, 1 RECLAMATION AND 6 RESETTLEMENT PROJECTS<sup>1</sup>

How Acquired	Total		Ashwood		Boquie		6 Resettlement Projects				Kesevillie		Stirling Farms		Kleath Falls	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
One party purposefully taking initiative	1126	40.7	130	47.3	67	91.6	623	38.6	112	45.5	70	50.4	124	37.9	11	5.9
They visited us	512		72		7		312		33		11		77			
Just visiting	280		15		53		141		14		32		25			
We visited them	263		35		4		170		18		16		20			
Visited upon arrival	60		6						44		10					
Business	11		2		3				3		1		2		11	
Met through fortuitous circumstances	622	22.5	73	26.5	19	11.8	365	22.6	60	24.4	24	17.3	80	24.5	107	57.2
Met on inspection trip	115		3				112									
Met on road	110		7		1		87		5		1		9		2	
Met at various project agencies	78		18		9		25		6		7		20		1	
Met through common acquaintances	66		8		1		28		15		7		6		1	
Met at work	61		4		1		19		10		2		25		3	
Arrived at same time	38						29		7		2		4		4	
Met through relatives	21		1		6		9		4		1		1		1	
Met at project office	20		14						6				12		80	
Met as neighbors	18		2				1		3							
Happened to be in town together	17						17									
Because of livestock straying	16						16				15					
Met at drawing of holdings	15															
Met in field	15		5		1		8		4				2		7	
Miscellaneous	32		10				14						3			
Formal institutions and clubs	120	4.4	15	5.5	19	11.8	35	2.2	29	11.8	16	11.5	6	1.8	18	9.6
Church	64		10		3		25		15		5		4		14	
Social gatherings	61		1		15		3		11		11					
Roma Demonstration Club	12		4				7		1							
Sunday School	3				1				2							
Mutual Benefit	176	6.4	8	2.9	2	1.2	137	8.5	16	6.5	2	1.4	11	3.4	1	.6
Using other person's well	53		1				39		8				5			
Helping to move in	38		4				31		1				2			
Borrowing household and farming equipment	33		2				27		2		2				1	
Helping in case of sickness	30						27		1				2			
One family did others a favor	10				1		8		2				1			
Other	11								2							
Former acquaintance	201	7.2	26	9.4	9	5.6	93	5.7	14	5.7	0	0	59	18.0	21	11.2
Knew previously	147		7		6		86		11				37		11	
Life	33		14		3		7		3				13		10	
Relatives	21		5										8			
Not stated	518	18.8	23	8.4	45	28.0	362	22.4	15	6.1	27	19.4	47	14.4	29	15.5

<sup>1</sup> No data collected for Cumberland Homesteads.

they happened to be neighbors. Seven per cent of those on the six resettlement projects reported having known, previous to their arrival on the projects, the families with whom they were visiting at the time of study. On the reclamation project over 11 per cent had been previously acquainted. The remaining families on the resettlement and reclamation projects met largely through formal institutions and clubs and by various incidents involving aid rendered by one family to another. With respect to the latter, it is interesting that at Klamath Falls only 0.6 per cent (1 case) of the families became acquainted through an incident involving mutual benefit, while on the projects, over 6 per cent of the families met through such means. This, taken with other differences, tends to accentuate the urban character of Klamath Falls.

#### Predominance of New Associations on Projects

Only about 3 per cent of the families that borrowed from, exchanged work with, and visited the interviewed families on the projects were associating with the interviewed family in one or more of these ways during the last year of residence in the old communities (Table 2). It is thus apparent that most of the associations on the projects are new ones resembling those of pioneers in the early days of the settlement of the country.

#### Extent of Unorganized Participation

To those persons interested in the more far-reaching aspects of the level of living, the query will immediately come to mind as to whether the neighbors of the interviewed families on the projects were as sociable and cooperative as were those in the old communities or even in the control groups. The importance of such a problem cannot be overestimated when one realizes that the development of the human personality is largely dependent upon reciprocity of relationships and social stimulation. People not privileged to have such associations in their local neighborhoods must be considered as disadvantaged.

In order to analyze non-organizational sociability and cooperativeness, the visiting, exchange of work, and borrowing activities were studied. Although

Table 2. PERCENTAGE OF FAMILIES REPORTED AS HAVING SPECIFIED ASSOCIATIONS WITH THE INTERVIEWED FAMILY AT THE TIME OF STUDY WHO ALSO HAD SUCH ASSOCIATIONS WITH THE INTERVIEWED FAMILY PREVIOUS TO SETTLEMENT, 1 RECLAMATION AND 7 RESETTLEMENT PROJECTS AND 4 CONTROL GROUPS<sup>1</sup>

Residence	Associations		
	Visit	Exchange Work	Borrow
7 resettlement projects	4	3	2
Ashwood	2	6	4
Bosque	52	23 <sup>3</sup>	0 <sup>3</sup>
Cumberland	2	0	2
Dyess	2	3	1
Penderlea	1	2	1
Ropesville	2	2	2
Skyline Farms	2	0	0
Klamath Falls	0	2	0

1. See Table 3 for number of interviewed families and Table 4 for total number of associating families. The basis for the percentages in this table is the number of associating families for which data concerning the subject involved were available.
2. Less than 0.5 per cent.
3. Less than 15 cases involved.

these are among the better indexes of informal social and economic participation in rural America, the type of farm enterprise as well as the structure of the community determines the extent of participation in them. For example, an analysis of exchanging work and borrowing activities would hardly portray sociability in Klamath Falls or South Holland. In these communities well-to-do farmers owned most of their own farm equipment and so borrowed only infrequently. Both groups hired outside help and seldom exchanged work themselves. At Tortugas the farm laborers had so little land that there was little borrowing or exchange of work. For the resettlement projects, however, the indexes proved more meaningful.

With the exception of Bosque Farms, the data indicated that the families recently settled on projects were exchanging work and borrowing more than had been the case in the communities of previous residence

Table 3. LOCATION OF COMMUNITIES STUDIED AND NUMBER FAMILIES INTERVIEWED IN EACH

Community or Group	State	Number of Families in Community <sup>1</sup>	Families Interviewed		
			Number <sup>2</sup>	Number of Children	
				Under 15	15 or Over
7 resettlement projects	-	1,156	912	2,308	486
Ashwood	South Carolina	63	63	192	51
Bosque	New Mexico	42	42	53	31
Cumberland	Tennessee	200	184	463	83
Dyess	Arkansas	484	415	1,060	232
Penderlea	North Carolina	110	49	118	21
Ropesville	Texas	32	32	55	6
Skyline Farms	Alabama	225	127	367	62
Klamath Falls	California-Oregon	3	57	81	24
Tortugas	New Mexico	100	33	91	22
South Holland	Illinois	600	552 <sup>4</sup>	491	320
Neighborhood of Bosque	New Mexico	3	20	28	21
Neighborhood of Cumberland	Tennessee	3	47	94	42

1. At time of survey.
2. Does not include schedules discarded because of inadequate data concerning social participation.
3. Not known.
4. For calculations on organizational participation only 443 schedules were used.

(Table 5). Because farmers, as a rule, exchange work and borrow to a considerable extent, the results of these data were significant in view of the fact that a large proportion of families on all of the projects except Cumberland Homesteads and Penderlea had been engaged in farming during the year previous to settlement. The large percentage of families on the Bosque project reporting no visiting, exchanging work, or borrowing is undoubtedly accounted for in part by habits established in the isolated existence led by these



Table 4. TOTAL NUMBER OF ASSOCIATING FAMILIES REPORTED BY INTERVIEWED FAMILIES, AT TIME OF STUDY AND PREVIOUS TO SETTLEMENT, 1 RECLAMATION AND 7 RESETTLEMENT PROJECTS AND 4 CONTROL GROUPS<sup>1</sup>

Residence	Associations			
	Visit	Exchange Work	Borrow	None <sup>2</sup>
Previous to settlement:				
7 resettlement projects	3,284	709	990	
Ashwood	279	37	56	
Bosque	138	38	39	
Cumberland	548	85	99	
Dyess	1,463	395	583	
Penderlea	239	65	116	
Ropesville	109	36	42	
Skyline Farms	508	53	55	
Klamath Falls	88	26	15	
At time of study:				
7 resettlement projects	3,525	1,151	1,602	3,898
Ashwood	292	125	93	309
Bosque	134	13	12	220
Cumberland	619	90	153	866
Dyess	1,602	746	1,071	1,550
Penderlea	234	84	142	245
Ropesville	122	53	57	155
Skyline Farms	522	40	74	553
Klamath Falls	147	40	48	166
Tortugas	102	7	7	151
South Holland	1,796	45	35	1,609
Neighborhood of--				
Bosque	61	5	10	102
Cumberland	158	27	29	176

- As indicated by footnotes on all text tables based on these figures, data were not available for all associating families. The form of the schedule precluded any one family's reporting more than 5 associations for each type specified.
- Do not visit, exchange work, or borrow although living close together.

Table 5. PERCENTAGE OF INTERVIEWED FAMILIES WHO REPORTED THAT AT LEAST ONE OTHER FAMILY VISITED, BORROWED FARM IMPLEMENTS OR EXCHANGED WORK WITH THEM, AT TIME OF STUDY AND PREVIOUS TO SETTLEMENT, 1 RECLAMATION AND 7 RESETTLEMENT PROJECTS AND 4 CONTROL GROUPS

Residence	Number of Interviewed Families	Percentage of Interviewed Families Reporting Specified Associations		
		Visit	Exchange Work	Borrow
Previous to settlement				
7 resettlement projects	912	98	43	51
Ashwood	63	100	29	46
Bosque	42	91	48	39
Cumberland	184	94	28	30
Dyess	415	100	56	68
Penderlea	49	100	53	78
Ropesville	32	94	56	50
Skyline Farms	127	98	23	23
Klamath Falls	57	51	18	11
At time of study:				
7 resettlement projects	912	98	59	65
Ashwood	63	100	84	65
Bosque	42	89	18	14
Cumberland	184	97	30	40
Dyess	415	99	80	89
Penderlea	49	100	66	90
Ropesville	32	100	81	69
Skyline Farms	127	98	25	32
Klamath Falls	57	88	39	39
Tortugas	33	89	11	14
South Holland	552	92	8	6
Neighborhood of--				
Bosque	20	89	16	26
Cumberland	47	100	38	42



people previous to settlement. Because of great distances between ranches and homesteads in the areas from which many of these families came, cooperation and visitation were relatively rare. Then, too, it must be remembered that there were certain conflicts between groups on the Bosque project which tended to discourage various associations.

Overlapping of Informal Relationships  
as an Indication of Integration

Visiting is predominantly a social relationship and may have little economic significance. Borrowing and exchanging work, however, are predominantly economic activities, though they usually do have certain sociological implications. If the families who make up the primary face-to-face group contacts of a given family all visit, exchange work, and borrow farm implements, one with another, the informal group life may be considered intensive. If, however, the family chooses associates or stands in mutual relationship to families who do not in turn associate among themselves, then the informal group life may be considered largely atomized. Theoretically, in a completely atomized society the individual would choose his relationships in such a way as to attain his own ends regardless of anything which in other societies might be called bonds or ties. In case there existed such atomized societies, a given family would probably not visit, borrow, and exchange work with another given family merely because the families were related by kinship, long-standing friendship, or by various types of compatibility. On the other hand, it may probably be assumed that there is a high degree of integration if, in a group of families who require assistance in several types of activities, all such assistance is obtained from one or within the same group of families.

According to the data compiled, settler families tend to associate more on the project than they did previous to settlement. This was true of all the individual projects with the exception of Bosque Farms and Cumberland Homesteads. Of all families visiting together on the projects as a whole, only 59 per cent did not also exchange work or borrow, or both; in the years previous to settlement, however, 70 per cent of the families failed to exchange or borrow from those

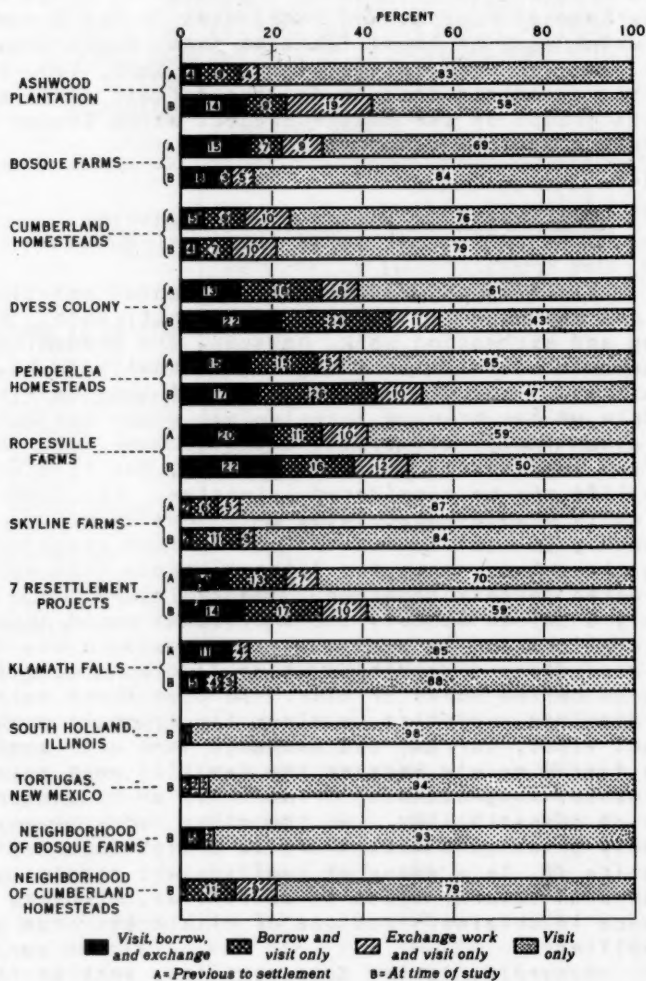


Figure 1. Overlapping of relationships as indicated by percentage of families visiting interviewed families who had specified additional associations, at time of study and previous to settlement, 1 reclamation and 7 resettlement projects and 4 control groups.

families with whom they visited (Figure 1). The conclusion may thus be drawn that informal social relationships tended to have cooperative economic aspects more frequently on the projects than was the case previous to resettlement. Since families in the control communities exchanged work or borrowed less frequently, there was not so much overlapping in their relationships with visiting families as in the case of the resettlement families.

The number of non-visiting families who participated in either of the two economic activities (borrowing and exchanging work) was small. Both at the time of study and previous to resettlement about three-fourths of the project families who engaged in either of the economic activities also visited. Thus economic participation of this nature is usually accompanied by social participation. This holds for all the groups studied in which there was any considerable amount of borrowing and exchanging work.

#### Bonds Relating Individuals to Informal Groupings

When families find themselves among strangers, just what factors determine the families with whom they strike up acquaintanceships? Are the characteristics of those families who associate with each other in new communities or on the frontier similar to the characteristics of the associates in the communities from which the families came? To answer such questions, the families on the seven resettlement projects were interviewed as to their informal associates both on the projects and in the communities of previous residence. The associates of the families in the six other groups were also determined. Each family head interviewed was requested to rank families on the basis of frequency of visitation to his home. In each of the communities, interviewed families also ranked those families with whom they exchanged work on the basis of the number of days involved and those from

4. Only family visitation was studied. The visited of both parents together or either parent alone, whether or not accompanied by children, were defined as family visits. The visits of children unaccompanied by their parents were not included.

whom they borrowed on the basis of the frequency with which farm implements were borrowed. Wherever there were other indications of informal groupings, they were investigated.<sup>5</sup> After the names of the associated families were thus ranked, their characteristics were listed in order that the pairs of associating families in the various situations might be compared in an effort to determine some of the bonds that were working toward group integration.

As another step in the analysis, the non-associating families in the immediate vicinity were ranked on the basis of the proximity of their residence to that of the interviewed family. The characteristics of non-associating families were also obtained for comparison with those of the interviewed family. Carrying the procedure still farther, the names of all families interviewed in each community were put in containers and shaken up. From these, random pairs of associations were selected in order that their characteristics might be compared with those of the families actually associating.

Correlation coefficients between identical characteristics of associating pairs of families were calculated to determine in what ways associating families tended to resemble one another. The assumption was made that if, in considering a given group or project, the correlation coefficient for a given factor (such as total value of family living) was high between the family interviewed and the family visiting this interviewed family, the tendency for families living on the same plane or level of living to visit prevailed within this group to a greater extent than did the tendency for families living on different planes or levels of living to visit with one another. As a check on this assumption, correlation coefficients indicating the relationship between the level of living for the interviewed family and the level of living for the nearest non-associating family were calculated. The same coefficients also were calculated for the families paired by random selection.<sup>6</sup> The hypothesis that families paired by such

5. For example, carrying the mail for one another was used on one project.
6. The data were first plotted on correlation charts, and the problem was set up as follows: If A associated with a and each had total values of family living of  $X^1$  and  $y^1$  respectively, B associated with b and each had total values of

random methods would not be similar in many of their characteristics was largely supported. Of thirty-two coefficients of variables for families paired at random, only six were greater than .12 (Table 6).<sup>7</sup> It is of interest that the coefficients for the latter were in practically all cases comparable to those between pairs of nearest non-associating neighbors. Inasmuch as the coefficients for the pairs of non-associating families and for the pairs of families selected at random were low, it may be assumed that the families who comprise each pair thus artificially created are dissimilar with respect to the characteristics tested in the analysis.

The correlation analysis did not indicate that families must have a large degree of similarity in order to associate. Distance between homes was very important at the time of the study and may have discounted the influence of some other factors which otherwise would have had definite influence.

Some of the tentative conclusions of the present study, as suggested by Table 6 and other calculations, are the following: (1) With respect to certain social and economic characteristics which were used as indexes in measuring the extent of formal and informal social participation of families, associating

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(Footnote continued) family living of  $X^2$  and  $y^2$  respectively, C associated with c and each had total values of family living of  $X^3$  and  $y^3$ , then the two variables in the problem would be X and y, or the total values of living of the interviewed family and of the family visiting with the interviewed family. X and y are components of one social relationship. If for many items the coefficients have been high (1.0 is the perfect correlation), there would be predilection in favor of the assumption that the associating families were similar in respect to the variable under consideration. The technique was devised to test group homogeneity.

7. Of these six coefficients, four were for the combined projects of Ashwood Plantation, Bosque Farms, Penderlea Homesteads and Ropesville, and two were for these same projects with the addition of Skyline Farms. The combination of such diverse universes (which was made in these instances in order to increase the size of the population) may be questionable. The Dyess sample was of sufficient size that the coefficients could be shown separately. When the projects were analyzed separately all coefficients for families paired by random selection were less than .12.

Table 6. CORRELATION COEFFICIENTS INDICATING EXTENT TO WHICH ASSOCIATING FAMILIES, NEAR-BY NON-ASSOCIATING FAMILIES, AND FAMILIES PAIRED BY RANDOM SELECTION OF REINTERVIEW GROUPS AND SOUTH HOLLAND WERE SIMILAR IN RESPECT TO CERTAIN SPECIFIED ITEMS

Items	Exchange-pairs family <sup>1</sup>			Visiting family <sup>1</sup>			Borrowing family <sup>1</sup>			Non-associating family <sup>2</sup>			Random family <sup>3</sup>		
	Projects	Dyads	South Hollands	Projects	Dyads	South Hollands	Projects	Dyads	South Hollands	Projects	Dyads	South Hollands	Projects	Dyads	South Hollands
<b>Number of cases—<sup>4</sup></b>															
<b>At time of study:<sup>5</sup></b>															
Number organizations contacted	156	203	36	362	382	445	156	246	27	281	273	535	316	413	548
Age of male head of male head	161	210	41	310	411	538	164	249	30	236	289	483	312	413	476
Age when married, resident family	152	504	28	282	366	365	181	245	30	234	278	450	307	403	499
Number persons, resident family	157	300	41	307	387	445	180	251	36	262	281	543	317	413	551
Distance of last move, 1930-36	156	156	0	307	307	307	180	180	0	273	273	543	317	413	551
Residence of last move, 1930-36	156	300	37	307	396	445	180	251	36	262	281	543	317	413	551
Residence of last move, 1930-36	156	300	37	299	397	445	187	253	36	258	280	533	312	413	538
<b>At time of study:<sup>6</sup></b>															
Number children 6 and under	129	129	188	186	186	186	129	129	188	165	165	186	165	165	186
Clothing expenses	129	129	186	186	186	186	129	129	186	165	165	186	165	165	186
Recreation expenses	129	129	186	186	186	186	129	129	186	165	165	186	165	165	186
Incidental expenses	129	129	186	186	186	186	129	129	186	165	165	186	165	165	186
Automobile operating expenses	129	129	186	186	186	186	129	129	186	165	165	186	165	165	186
Provision to settlement:	129	129	186	186	186	186	129	129	186	165	165	186	165	165	186
Age of male head	120	226	253	385	385	385	132	267							
Years schooling of male head	118	215	251	374	374	374	130	256							
<b>Correlation coefficients—</b>															
<b>At time of study:<sup>5</sup></b>															
Number organizations contacted	.282	.559	.188	.320	.453	.181	.187	.294		-.108	.309	.028	.060	.066	-.004
Age of male head	.231	.075	.501	.260	.185	.148	.224	.089	-.013	.085	-.023	.056	.047	.380	.044
Years schooling of male head	.218	.082	.089	.181	.085	.138	.150	.076	.010	.076	.010	.076	.010	.076	.010
Age when married, resident family	.252	.081	.284	.146	.019	.083	.252	.004	.534	.007	.004	.004	.007	.004	.004
Number persons, resident family	.221	.014	.000	.203	.057	.187	.252	.004	.534	.007	.004	.004	.007	.004	.004
Distance of last move, 1930-36	.161	.186	.070	.171	.181	.181	.171	.181	.181	.181	.181	.181	.181	.181	.181
Residence of last move, 1930-36	.161	.186	.070	.171	.181	.181	.171	.181	.181	.181	.181	.181	.181	.181	.181
<b>At time of study:<sup>6</sup></b>															
Number organizations contacted	.181	.306	.188	.306	.453	.181	.187	.294		-.020	.309	.028	.060	.066	-.004
Age of male head	.231	.075	.501	.260	.185	.148	.224	.089	-.013	.085	-.023	.056	.047	.380	.044
Years schooling of male head	.218	.082	.089	.181	.085	.138	.150	.076	.010	.076	.010	.076	.010	.076	.010
Age when married, resident family	.252	.081	.284	.146	.019	.083	.252	.004	.534	.007	.004	.004	.007	.004	.004
Number persons, resident family	.221	.014	.000	.203	.057	.187	.252	.004	.534	.007	.004	.004	.007	.004	.004
Distance of last move, 1930-36	.161	.186	.070	.171	.181	.181	.171	.181	.181	.181	.181	.181	.181	.181	.181
Residence of last move, 1930-36	.161	.186	.070	.171	.181	.181	.171	.181	.181	.181	.181	.181	.181	.181	.181
<b>At time of study:<sup>6</sup></b>															
Number organizations contacted	.181	.306	.188	.306	.453	.181	.187	.294		-.020	.309	.028	.060	.066	-.004
Age of male head	.231	.075	.501	.260	.185	.148	.224	.089	-.013	.085	-.023	.056	.047	.380	.044
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Residence of last move, 1930-36	.161	.186	.070	.171	.181	.181	.171	.181	.181	.181	.181	.181	.181	.181	.181
<b>At time of study:<sup>6</sup></b>															
Number organizations contacted	.181	.306	.188	.306	.453	.181	.187	.294		-.020	.309	.028	.060	.066	-.004
Age of male head	.231	.075	.501	.260	.185	.148	.224	.089	-.013	.085	-.023	.056	.047	.380	.044
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<b>At time of study:<sup>6</sup></b>															
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Age of male head	.231	.075	.501	.260	.185	.148	.224	.089	-.013	.085	-.023	.056	.047	.380	.044
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Distance of last move, 1930-36	.161	.186	.070	.171	.181	.181	.171	.181	.181	.181	.181	.181	.181	.181	.181
Residence of last move, 1930-36	.161	.186	.070	.171	.181	.181	.171	.181	.181	.181	.181	.181	.181	.181	.181

1. Pairs consist of the interviewed family and the family associating most frequently.

2. Pairs consist of interviewed family and family living closest but not associating with interviewed family.

3. Names of all families in each resettlement or control group were put in separate urns and drawn one at a time. One urn was drawn from the urn containing the names of families associating with interviewed family and the other from the urn containing the names of families not associating with interviewed family. The two families were then paired.

4. The number of cases changed because in some instances data were not available for pairs of families.

5. Data for "Projects" include Ashwood Plantation, Boggs Farm, Pendleton Homesteads, Roseville Farm, and Skyline Farm.

6. Data for "Dyads" include Ashwood Plantation, Boggs Farm, Pendleton Homesteads, Roseville Farm, and Skyline Farm.



pairs of families<sup>8</sup> tended to be most similar in number of families contacted in visiting, number of organizations contacted, monthly attendance at church and non-church organizations, expenditures for social participation and recreation, and, with the exception of Cumberland Homesteads, expenditures for clothing. (2) The correlation coefficients for the total value of living indicated that there was some tendency for families of similar economic status and similar levels of living to associate.<sup>9</sup> (3) There were indications that certain factors not included in the correlation analysis were more important in determining associations than those included. For example, subtle psychological factors making for compatibility often constitute more lasting bonds between individuals than the amount of money or education a person may have. Thus many times association bonds are

8. For 162 pairs of families on the Cumberland Homesteads correlation coefficients for families visiting most frequently were as follows: (1) Total number of families contacted in visiting .27; (2) Number of families visited which returned the visit (mutual relationship) .22; (3) Husbands' monthly attendance in all church organizations on the project .31; (4) Husbands' attendance at non-church organizations on the projects .14; (5) Number of formal organizations contacted on the project .29; (6) Expenditures for social participation and recreation .14; (7) Clothing expenditures .08. It is interesting to note that the correlation coefficient for the husbands' monthly attendance in church organizations for the year previous to settlement was insignificant (.03), but for non-church organizations it was .20.

For the individual projects combined in Table 6 under the category "Projects," the 63 pairs of visiting families at Ashwood Plantation, 39 at Bosque Farms, 52 at Penderlea Homesteads, and 32 at Ropesville, the correlation coefficients for expenditures for social participation and recreation were .39, .15, .18, and -.099, respectively.

9. In addition to the coefficients in Table 4, the coefficient for the total value of living for 162 pairs of visiting Cumberland Homesteads families was .11.

The coefficients for this factor for the separate projects included in Table 6 as resettlement projects with the number of pairs involved in the calculations were as follows: Ashwood Plantation 63 pairs, coefficient -.13; Bosque Farms 38 pairs, coefficient .18; Penderlea 51 pairs, coefficient .31; Ropesville 32 pairs, coefficient .32.

3. Name of all families in each resettlement or control group were put in separate urns and shaken. One name was drawn from the urn containing the names of families in a given group to pair with each interviewee family of the control group. This procedure was repeated until all the interviewee families had been paired. 4. Data for "Projects" include Ashwood Plantation, Bosque Farms, Penderlea Homesteads, Ropesville Farms, and Bayline Farms. 5. Expenditures for clothing were not available for all pairs of families. 6. Expenditures for recreation were not available for all pairs of families. 7. Expenditures for social participation and recreation were not available for all pairs of families. 8. Expenditures for clothing were not available for all pairs of families. 9. Expenditures for recreation were not available for all pairs of families.

strongest when distinct differences in personality complement one another. It is planned that other factors may be taken into consideration in subsequent studies. (4) The correlation coefficients between factors for associating families on the projects gave no evidence that conditions relative to informal associations on the projects were radically different from those found in the control communities.<sup>10</sup> (5) A test study of association made at Dyess in April 1938 (22 months after the original field work), indicated that families who associated tended to be equal in social and economic status.<sup>11</sup> There was apparently no

10. Of the control communities only South Holland had more than 50 families for which these data were available. At Klamath Falls where there were relatively few associating families with blood kinship bonds and high geographical mobility, husbands of similar ages associated. For 50 associating families the correlation coefficient indicating this relationship was .57 and for 49 pairs of non-associating families living close together the comparable coefficient was .005 and for 63 pairs of families paired by random selection the comparable coefficient was -.15. For this Klamath Falls group other coefficients were number of organizations contacted by the family, automobile operating expenses, and total value of family living. The correlation calculated coefficients indicating the similarity of families in these respects were .42, .53, and .50, respectively, but the number of pairs of family involved was only 21, 27, and 27, respectively. For non-associating families paired because of proximity of dwelling these coefficients for 28, 37, and 35 families were .09, -.07, and .14; for families paired at random -.04, .01, and .20.
11. Since most families on the projects have children in school, the school is a medium through which families may be investigated. Through questionnaires filled out by the children the association pattern of visiting families at Dyess were learned and mapped. The teachers rated the families on the basis of socio-economic status and level of living as determined by their impressions of the children. For 136 pairs of families which were reported by the children as engaging in mutually visiting one another at each others homes, the correlation coefficient for the ranking given by the teachers was .20. For 139 pairs of families associating most frequently, the correlation coefficient for this item was .25. Except for the recent check-up study made at Dyess in April 1938, all data for the present study were from personal interviews with each family.



tendency for associating families to be less similar at this later period than at the time of the first study. It is also interesting that the matter of distance played an even less important part at the time the test study made in 1938 was completed. This and first-hand observations lead to the conclusion that new associations established on the projects are usually between persons who were more similar in social and economic status than were those whose associations were dissolved.

### Blood Kinship as a Tie

Communities that attain high degrees of solidarity and integration are composed to a considerable extent of families that are bound together by kinship ties. Other things being equal, the greater the consanguinity among families, the greater will be the homogeneity and solidarity of a community.

On the projects, approximately 5 per cent of the families who associated with the interviewed families were related to them by blood. Of course, this was not so large a percentage as in the communities of residence previous to resettlement, in which 28 per cent of the families which visited and borrowed and 37 per cent of those which exchanged work were related (Table 7).

Kinship seemed to be a more significant factor in the informal group life of the older communities of the South, the Indian-Mexican village of Tortugas, and South Holland. In the latter two communities 41 and 64 per cent, respectively, of those visiting interviewed families were kin. Relatively fewer families were related by blood at Klamath Falls than in any of the four control groups. In fact, the families of the urbanized Klamath Falls area and the recently settled areas in the Southwest, from which the settlers at Bosque Farms and Ropesville originally came, were less frequently tied by bonds of kinship than were any of the groups studied. This indicates, perhaps, that one of the significant differences in community organization in the older established areas of the East and Southeast and the newer areas of the West may be traced to the more significant influence of kinship as a bond in the former.

Only at South Holland and in the old Indian and Spanish-American communities in the neighborhood

Table 7. PERCENTAGE OF FAMILIES RELATED BY BLOOD TO THE INTERVIEWED FAMILY WITH WHOM THEY HAD SPECIFIED ASSOCIATIONS, PREVIOUS TO SETTLEMENT AND AT TIME OF STUDY, 1 RECLAMATION AND 7 RESETTLEMENT PROJECTS AND 4 CONTROL GROUPS<sup>1</sup>

Residence	Associations			
	Visit	Exchange Work	Borrow	None <sup>2</sup>
Previous to settlement:				
7 resettlement projects	28	37	28	
Ashwood	39	32	45	
Bosque	22	34	15	
Cumberland	25	38	35	
Dyess	30	39	28	
Penderlea	26	31	25	
Ropesville	18	25	17	
Skyline Farms	26	37	24	
Klamath Falls	18	4 <sup>3</sup>	7 <sup>3</sup>	
At time of study:				
7 resettlement projects	6	6	4	0
Ashwood	7	11	5	1
Bosque	21	16 <sup>3</sup>	17 <sup>3</sup>	0
Cumberland	6	7	2	0
Dyess	5	6	3	0
Penderlea	2	2	3	0
Ropesville	2	6	5	0
Skyline Farms	8	8	5	0
Klamath Falls	10	15	0	1
Tortugas	41	86 <sup>3</sup>	43 <sup>3</sup>	1
South Holland	64	86	73	12
Neighborhood of--				
Bosque	40	100 <sup>3</sup>	50 <sup>3</sup>	10
Cumberland	38	28	24	4

1. See Table 3 for number of interviewed families and Table 4 for total number of associating families. The basis for the percentages in this table is the number of associating families for which data concerning the subject involved were available.
2. Do not visit, exchange work, or borrow although living close together.
3. Less than 15 cases involved.

of Bosque, where a large proportion of the families were interrelated by kinship, did blood relationships exist among any considerable number of the non-associating families who dwelt near-by. Elsewhere families traveled long distances in order to associate with relatives. Parents in associating families were most frequently the brothers and/or sisters or the mothers and/or the fathers of the parents of interviewed families (Table 8).

### Children Playing Together

Approximately 70 per cent of the families who associated (by visiting, borrowing, or exchanging work) with the interviewed families on the 7 resettlement projects had children who played with those of the interviewed families (Table 9). In the communities of residence previous to resettlement the corresponding percentage was only about 61. Associating families on the projects, however, were more frequently of the same age and consequently had children of comparable ages. In South Holland, where blood ties were relatively important, few children of associating families were of comparable ages; but where the differences were not too great the children played together as much as in any other community. Such associations between children tend to make for greater community integration<sup>12</sup> as the community becomes older, for among older people community ties established in childhood may be particularly strong, especially where kinship strengthens the bond.

### Distance as a Factor in Integration

Another reason the children of associating families played together more frequently on the resettlement projects than in the other communities was the shorter distance between homes (Table 10). On the resettlement projects the families visiting most frequently lived a little less than a third of a mile

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12. Loomis, Charles P., The Development of Planned Rural Communities, In Rural Sociology, Volume 3, Number 4, Louisiana State University Press, University Louisiana, December, 1938.

Table 8. PERCENTAGE OF VISITING FAMILIES REPORTED AS HAVING SPECIFIED BLOOD RELATIONSHIP WITH THE INTERVIEWED FAMILIES, AT TIME OF STUDY AND PREVIOUS TO SETTLEMENT, 1 RECLAMATION AND 7 RESETTLEMENT PROJECTS AND 4 CONTROL GROUPS<sup>1</sup>

Relationship	Residence					
	7 Resettlement Projects	Klamath Falls	Tortugas	South Holland	Neighborhood of--	
					Bosque	Cumber-land
Previous to settlement:						
Total	100	100				
No relationship	72	82				
Father or mother	7	0				
Brother or sister	12	13				
Nephew or niece	1	0				
Uncle or aunt	3	4				
Other	5	1				
At time of study:						
Total	100	100	100	100	100	100
No relationship	94	90	59	36	60	62
Father or mother	1	0	17	14	4	11
Brother or sister	3	6	14	33	18	14
Nephew or niece	2	0	2	2	5	1
Uncle or aunt	2	0	2	3	0	3
Other	2	4	6	12	13	9

1. See Table 3 for number of interviewed families and Table 4 for total number of associating families. The basis for the percentages in this table is the number of associating families for which data concerning the subject involved were available.
2. Less than 0.5 per cent.

Table 9. PERCENTAGE OF FAMILIES WHOSE CHILDREN PLAYED WITH THOSE OF THE INTERVIEWED FAMILY WITH WHOM THEY HAD SPECIFIED ASSOCIATIONS, AT TIME OF STUDY AND PREVIOUS TO SETTLEMENT, 1 RECLAMATION AND 7 RESETTLEMENT PROJECTS AND 4 CONTROL GROUPS<sup>1</sup>

Residence	Associations			
	Visit	Exchange Work	Borrow	None <sup>2</sup>
Previous to settlement:				
7 resettlement projects	60	63	60	
Ashwood	62	35	48	
Bosque	58	53	60	
Cumberland	66	85	100	
Dyess	64	63	62	
Penderlea	53	76	60	
Ropesville	50	69	77	
Skyline Farms	53	67	40	
Klamath Falls	44	46 <sup>3</sup>	40 <sup>3</sup>	
At time of study:				
7 resettlement projects	69	72	70	31
Ashwood	70	77	73	29
Bosque	50	50 <sup>3</sup>	58 <sup>3</sup>	24
Cumberland	89	75	86	48
Dyess	73	74	70	36
Penderlea	66	66	61	13
Ropesville	46	53	72	30
Skyline Farms	63	62	77	27
Klamath Falls	51	30	38	23
Tortugas	56	100 <sup>3</sup>	75 <sup>3</sup>	31
South Holland	26	29	25	16
Neighborhood of--				
Bosque	52	75 <sup>3</sup>	80 <sup>3</sup>	19
Cumberland	38	70	57	10

1. See Table 3 for number of interviewed families and Table 4 for total number of associating families. The basis for the percentages in this table is the number of associating families for which data concerning the subject involved were available.
2. Do not visit, exchange work, or borrow although living close together.
3. Less than 15 cases involved.

Table 10. AVERAGE DISTANCE IN MILES BETWEEN HOMES OF VISITING FAMILIES AND NEAREST NON-ASSOCIATING FAMILIES, AT TIME OF STUDY AND PREVIOUS TO SETTLEMENT, 1 RECLAMATION AND 7 RESETTLEMENT PROJECTS AND 2 CONTROL GROUPS

Residence	Distance in Miles between Homes of--			
	Associating Families			Non-Associating Families
	Total <sup>1</sup>	Families Visited Most Frequently	Families Ranking Fifth in Frequency of Visitation	
Previous to settlement:				
7 resettlement projects	1.1	1.0	1.4	
Ashwood	1.8	1.1	3.2	
Bosque	2.3	1.9	3.5	
Cumberland	.9	.9	.5	
Dyess	1.1	1.0	1.4	
Penderlea	1.0	.8	1.2	
Ropesville	2.8	2.7	3.1	
Skyline Farms	.7	.8	.3	
Klamath Falls	2.9	3.2	2.0	
At time of study:				
7 resettlement projects	0.4	0.3	0.6	0.3
Ashwood	.5	.4	.7	.6
Bosque	.8	.8	.8	.5
Cumberland	.2	.2	.4	.2
Dyess	.3	.3	.4	.3
Penderlea	.6	.4	.8	.5
Ropesville	.6	.7	.6	.7
Skyline Farms	.4	.4	.2	.3
Klamath Falls	5.3	5.9	3.8	.4
South Holland	3.3	2.2	6.3	.1
Tortugas	.5	.5	.4	.1

1. See Table 3 for number of interviewed families and Table 4 for total number of associating families. Families visiting interviewed families were ranked on basis of frequency of visitation. In this table only families ranking first and fifth were included.



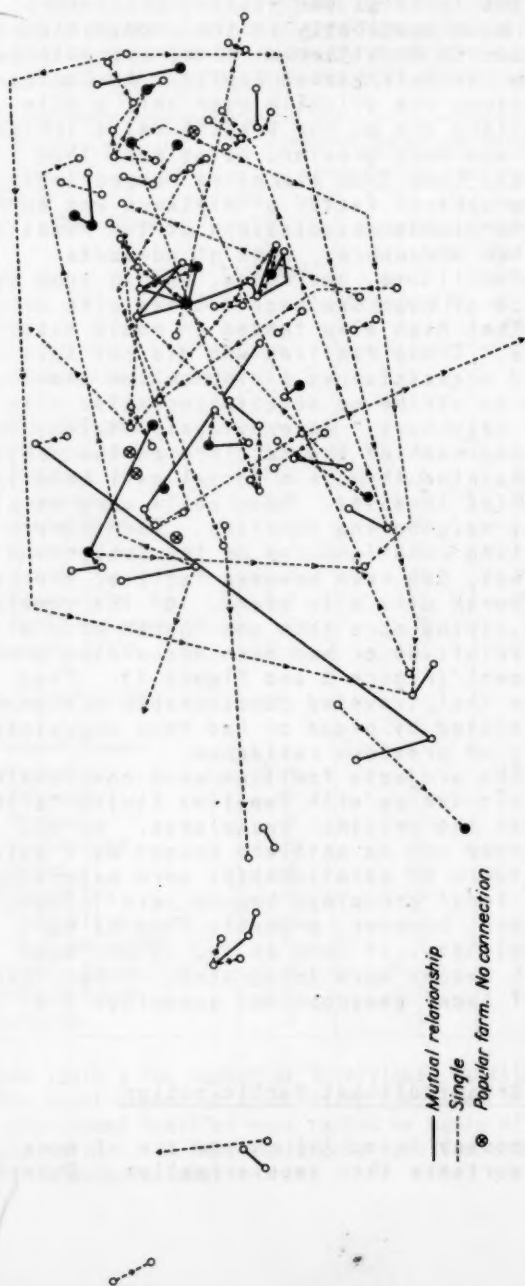
apart, whereas the families who visited the interviewed families most frequently in the communities of residence previous to resettlement lived approximately one mile from the interviewed family. At Tortugas the average distance was slightly over half a mile, but at South Holland and on the Klamath Falls irrigation project it was much greater, being more than three and slightly less than six miles respectively.

The geographical factor of distance was more important in determining associations at the resettlement projects than elsewhere. Lack of adequate transportation facilities, bad roads, and in some cases, the existence of huge drainage ditches with banks forty to fifty feet high also tended to mould associational patterns. Those families who did not have relatives or old acquaintances living on the same projects tended to strike up acquaintanceships with their next-door neighbors. As previously stated, approximately 40 per cent of the settlers on the projects became acquainted through a formal call paid by one of the families involved. Such calls were usually made to or by neighboring families. For example, of the 621 visiting relationships on the Cumberland Homesteads project, 562 were between families living less than one-fourth of a mile apart. Of the remaining 59 families living more than one-fourth of a mile apart, 30 were relatives or had been acquainted previous to resettlement (Figure 2 and Figure 3). Thus, the few families that traveled considerable distances to visit were related by blood or had been acquainted in the community of previous residence.

On all the projects families were continually making new friendships with families living farther from home than the original associates. As the roads were improved and as settlers bought more automobiles, the network of relationships were naturally changed and the local groupings became less integrated. Families were, however, probably finding more compatible associates. If this is so, it may mean that groups will become more integrated, rather than less so, even if local geographical groupings are shattered.

#### Common Organizational Participation

Few processes in social change are of more far-reaching importance than secularization. Church



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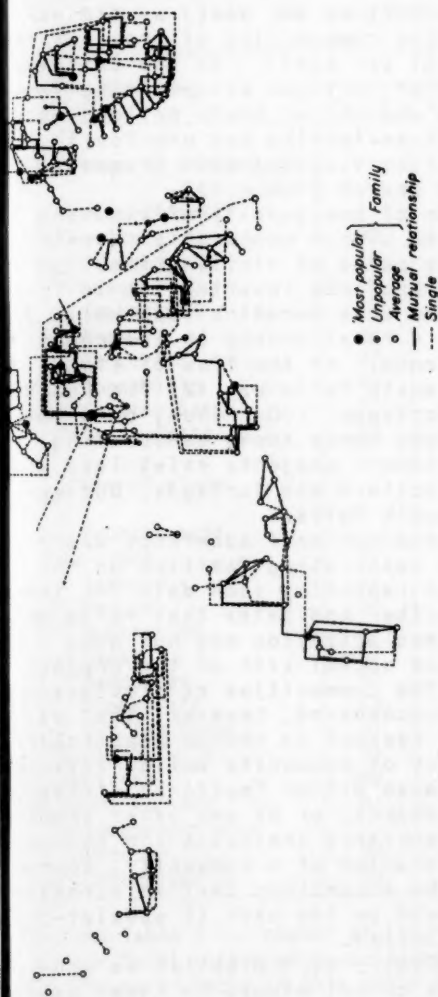
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Figure 2. Visiting relationships between related families and families acquainted previous to settlement, Cumberland Homesteads, Tennessee, 1936.

This map indicates that families acquainted previous to settlement traveled farther to visit than did families not acquainted previous to settlement. The most popular families are indicated by the black circles.



This map indicates that families acquainted previous to settlement traveled farther to visit than did families not acquainted previous to settlement. The most popular families are indicated by the black circles.



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Figure 3. Visiting relationships between families unacquainted previous to settlement, Cumberland Homesteads, Tennessee, April 1936.

This map indicates the importance of distance in the formation of informal groupings during the early stages of project development. The rings represent the location of the houses in which the settlers were living at the time of the survey; the lines between the rings, the visiting relationships. A solid line indicates that both families reported the relationship; a broken line, that only one reported it. These relationships have been established between families unknown to each other previous to settlement on the project. The lengths of the lines indicate that the visiting families who did not know each other before coming to the project traveled only short distances for purposes of visiting. The black circles indicate the most popular families, judged so by having six or more families report visiting relationships with them.

participation on the resettlement projects did not indicate that a trend toward secularization predominated. In fact, almost as large a proportion of associating families attended the same local church on the projects (approximately 46 per cent) as did associating families in the communities of previous residence (approximately 51 per cent). In the Catholic Indian-Mexican village of Tortugas all visiting families attended the same church; at South Holland and Klamath Falls almost three-fourths and one-fourth respectively of the families visiting most frequently also attended the same church (Table II).

A consideration of homogeneity of visiting families with respect to church membership revealed that 25 per cent of the pairs of visiting families on the seven resettlement projects reported two to four parents belonging to the same denominations while 37 per cent reported such a relationship in the communities of previous residence. At the time of study, this percentage for Klamath Falls was 12; for South Holland, 64; and for Tortugas, 100. Thus, on a comparative basis, religious bonds among associating families on the resettlement projects exist less frequently than at South Holland and Tortugas, but more frequently than at Klamath Falls.

That common denominational adherence was almost as frequent among associating families on the projects as among those reporting such data for their previous residences further indicates that religiosity persists and that secularization may not make greater inroads into the social life of the project groups than it did in the communities of previous residence. It should be remembered, however, that extreme homogeneity with respect to church membership does not preclude a lack of community solidarity; on the contrary, it may cause bitter factional strife. But wherever a single church, or as any other organization with a large membership dominates the social life and economic cooperation of a community, there is evidence favoring the assumption that integration is more likely than would be the case if special-interest groups predominated.

The extent of family participation in non-religious organizations cannot always be taken as an indication of community integration. In some societies where individualism and atomization are prevalent, there are many special-interest groups. Families

Table II. PERCENTAGE OF FAMILIES ATTENDING THE CHURCH ATTENDED BY THE INTERVIEWED FAMILY WITH WHOM THEY HAD SPECIFIED ASSOCIATIONS, AT TIME OF STUDY AND PREVIOUS TO SETTLEMENT, 1 RECLAMATION AND 7 RESETTLEMENT PROJECTS AND 4 CONTROL GROUPS

Residence	Associations			
	Visit	Exchange Work	Borrow	None <sup>2</sup>
Previous to settlement:				
7 resettlement projects	52	51	49	
Ashwood	53	50	52	
Bosque	23	24	27	
Cumberland	44	40	22	
Dyess	58	59	56	
Penderlea	37	27	30	
Ropesville	48	40	41	
Skyline Farms	52	47	46	
Klamath Falls	33	29 <sup>3</sup>	22 <sup>3</sup>	
At time of study:				
7 resettlement project	44	49	48	40
Ashwood	71	86	83	40
Bosque	56	62 <sup>3</sup>	58 <sup>3</sup>	33
Cumberland	66	40	67	68
Dyess	47	51	49	45
Penderlea	40	27	40	32
Ropesville	23	23	23	17
Skyline Farms	31	42	42	25
Klamath Falls	21	20	30	26
Tortugas	100	100 <sup>3</sup>	100 <sup>3</sup>	0
South Holland	61	71	79	0
Neighborhood of--				
Bosque	82	80 <sup>3</sup>	62 <sup>3</sup>	63
Cumberland	32	39	24	25

1. See Table 3 for number of interviewed families and Table 4 for total number of associating families. The basis for the percentages in this table is the number of associating families for which data concerning the subject involved were available.
2. Do not visit, exchange work, or borrow although living close together.
3. Less than 15 cases involved.

join hands to achieve some common end. Thus one family may belong to several special-interest groups and associate with another family which belongs to entirely different special-interest groups. A community composed of such families and relationships would probably not be so highly integrated as communities in which all individuals belonged to the same groups and had the same interests. At Tortugas no visiting families had common membership in non-church organizations, and at South Holland only 15 per cent of the visiting families had such membership, but in the highly secularized community on the Klamath Falls irrigation project one-half of the visiting families had such membership in common. This is largely accounted for by the fact that at Tortugas and South Holland the church dominates the informal social participation of the communities while at Klamath Falls it plays a minor part, allowing special-interest groups and other organizations to become more important. On the seven resettlement projects, 44 per cent of the visiting families belonged to common non-church organizations as compared with less than 20 per cent in the communities of previous residence (Table 12).

On the projects there were a number of special-interest groups as well as general organizations, many of which were sponsored by the local administration. Some projects had experts who gave a great deal of their time to the organization of such non-church activities.

#### Social Distance between Associating Families

Informal associations previous to resettlement were most frequently between renters<sup>13</sup> or between renters and owners, but other tenure combinations were also common (Table 13). Frequently when renters or croppers associated with owners the families were related by ties of blood. Often sons or daughters whose parents were non-owners associated with sons or daughters of owners. Most of the settlers who were not farmers previous to settlement were unskilled workers in cotton mills and mines.

- 
13. A number of renters had been croppers previous to becoming rehabilitation clients in the communities of residence previous to resettlement.

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Table 12. PERCENTAGE OF FAMILIES PARTICIPATING IN NON-RELIGIOUS ORGANIZATIONS ATTENDED BY THE INTERVIEWED FAMILY WITH WHOM THEY HAD SPECIFIED ASSOCIATIONS, AT TIME OF STUDY AND PREVIOUS TO SETTLEMENT, 1 RECLAMATION AND 7 RESETTLEMENT PROJECTS AND 4 CONTROL GROUPS<sup>1</sup>

Residence	Associations			
	Visit	Exchange Work	Borrow	None <sup>2</sup>
Previous to settlement:				
7 resettlement projects	20	20	21	
Ashwood	34	19	38	
Bosque	17	26	23	
Cumberland	29	12	19	
Dyess	21	22	22	
Penderlea	14	22	13	
Ropesville	29	33	31	
Skyline Farms	3	0	7	
Klamath Falls	28	0 <sup>3</sup>	0 <sup>3</sup>	
At time of study:				
7 resettlement projects	44	49	42	42
Ashwood	47	43	38	40
Bosque	24	38 <sup>3</sup>	33 <sup>3</sup>	16
Cumberland	84	94	87	87
Dyess	43	49	42	39
Penderlea	23	12	20	6
Ropesville	76	81	68	70
Skyline Farms	3	0	4	2
Klamath Falls	50	45	50	36
Tortugas	0	0 <sup>3</sup>	0 <sup>3</sup>	0
South Holland	15	37	20	7
Neighborhood of--				
Bosque	5	0 <sup>3</sup>	0 <sup>3</sup>	4
Cumberland	3	0	3	5

1. See Table 3 for number of interviewed families and Table 4 for total number of associating families. The basis for the percentages in this table is the number of associating families for which data concerning the subject involved were available.
2. Do not visit, exchange work, or borrow although living close together.
3. Less than 15 cases involved.

Table 13. PERCENTAGE OF VISITING RELATIONSHIPS, BY TENURE OF FAMILIES PARTICIPATING, YEAR PREVIOUS TO SETTLEMENT FOR 1 RECLAMATION AND 7 RESETTLEMENT PROJECTS AND AT TIME OF STUDY FOR 2 CONTROL GROUPS<sup>1</sup>

Visiting Relationships, by Tenure <sup>2</sup>	Percentages of Visiting Relationships									
	7 Resettlement Projects							Klamath Falls Project		Neighborhood of--
	Total	Ashwood	Bosque	Cumber-land	Dyess	Pen-derlee	Ropes-ville	Skyline Farms	Bosque	
Farm laborer with--										
Farm laborer	1	0	0	0	3	0	0	4	11	0
Cropper	2	2	0	1	3	0	1	9	0	0
Renter	4	2	1	0	3	1	1	12	4	0
Owner	5	5	3	1	2	5	0	21	20	0
Cropper with--										
Cropper	4	10	0	1	3	0	0	11	0	0
Renter	8	13	1	7	8	0	4	15	3	0
Owner	8	20	0	9	5	3	0	22	3	0
Renter with--										
Renter	23	2	10	9	31	24	56	1	8	0
Owner	31	10	48	53	35	63	33	2	34	29
Owner with--										
Owner	9	7	37	10	8	4	5	3	42	71
Tenure not specified	5	29	0	9	5	0	0	3	6	0

1. See Table 1 for number of interviewed families and Table 30, appendix, for total number of associating families. The basis for the percentages in this table is the number of associating families for which data concerning the subject involved were available.

2. In this report an owner is a farmer who owns a part or all of the land he operates. A cropper is a farmer who operates only rented land and to whom the landlord furnishes all the work animals; i.e., a farm operator who contributes only his labor and receives in return a share of the crop. A renter is a farm operator who operates hired land only, furnishing all or part of the working equipment and stock, whether he pays cash or a share of the crop or both as rent.

3. Less than .5 per cent.



might be expected, their families most frequently associated with the families of other unskilled or semi-skilled workers.

On the seven resettlement projects most of the associations were among families of the same tenure status. This is to be expected since all farmers living on the projects as settlers automatically became potential owners. There are some who argue that similarity in tenure status will make for community integration as integration is largely dependent upon homogeneity.

#### Common Possession of Property as a Social Bond

In those rural communities such as old Russian Mir, or in rural German, Russian, Mexican and Hindu villages, high degrees of social integration and solidarity have been attained. Such solidarity and homogeneity generally may be pronounced when land and other property is held in common in some form of tenure arrangement.

Common ownership of property by associating families was unusual for all groups studied except for the families exchanging work with the interviewed families at South Holland (Table 14). On the seven resettlement projects, the percentages of families who owned property in common and who also exchanged work with and borrowed from the interviewed families were 9 and 7 respectively. Even though these percentages were small, associating families on the projects more frequently owned property in common than did similar families in the communities of previous residence. Farm implements were the most frequent type of property owned in common.

Most projects had cooperatives, but unfortunately the settlers did not think of such facilities as common property. In time they may come to do so, especially as they come more and more to determine the policies of the organizations.

#### Similarity of Attitudes and Habits of Associating Families

In this study no attitude scale was administered to the settlers on the projects. However, some

Table 14. PERCENTAGE OF FAMILIES HAVING PROPERTY IN COMMON WITH THE INTERVIEWED FAMILY WITH WHOM THEY HAD SPECIFIED ASSOCIATIONS, AT TIME OF STUDY AND PREVIOUS TO SETTLEMENT, 1 RECLAMATION AND 7 RESETTLEMENT PROJECTS AND 4 CONTROL GROUPS<sup>1</sup>

Residence	Associations			
	Visit	Exchange Work	Borrow	None <sup>2</sup>
Previous to settlement:				
7 resettlement projects	1	4	3	
Ashwood	0	0	0	
Bosque	4	11	8	
Cumberland	1	2	3	
Dyess	1	4	2	
Penderlea	2	11	5	
Ropesville	2	6	2	
Skyline Farms	2	0	0	
Klamath Falls	3	8 <sup>3</sup>	7 <sup>3</sup>	
At time of study:				
7 resettlement projects	4	9	7	4
Ashwood	1	2	1	0
Bosque	1	0 <sup>3</sup>	0 <sup>3</sup>	0
Cumberland	4	15	8	0 <sup>4</sup>
Dyess	5	10	7	1
Penderlea	6	10	6	1
Ropesville	12	11	15	1
Skyline Farms	0	0	0	0
Klamath Falls	3	12	4	1
Tortugas	1	0 <sup>3</sup>	0 <sup>3</sup>	0
South Holland	4	33	12	4
Neighborhood of--				
Bosque	5	0 <sup>3</sup>	0 <sup>3</sup>	0
Cumberland	1	4	0	0

1. See Table 3 for number of interviewed families and Table 4 for total number of associating families. The basis for the percentages in this table is the number of associating families for which data concerning the subject involved were available.
2. Do not visit, exchange work, or borrow although living close together. Such families may have associated in some other respect, as was obviously the case for those owning property in common.
3. Less than 15 cases involved.
4. Less than 0.5 per cent.



makeshift approaches to the problem of whether associating families had similar attitudes were made. Even though different political affiliations in America have seldom been indicative of group association or membership in a given community, they may have some significance. Slightly over 91 per cent of the interviewed families on the resettlement projects, reported that the families who associated with them by visiting, borrowing, and exchanging work had the same political affiliations.<sup>14</sup> (Table 15). Almost as large a proportion (90 per cent) of the families who visited the settler families in the communities of previous residence were of the same political affiliation. Indeed, there was almost as great a homogeneity of political affiliations among the non-associating pairs of neighboring families as there was among the associating, with only 12 per cent of the families having different political affiliations. These percentages of non-associating families with different political affiliations were 7 and 18 respectively for the Klamath Falls Irrigation project and the South Holland Dutch community. It is thus evident that with regard to political affiliations associating families in all of the communities are only slightly more homogeneous than those of the nearest non-associating families.

After the interviewed families had given the requested information relative to the characteristics of the families with whom they associated, they were asked whether each of these families had habits similar to their own. This question was not explained further and it was expected that responses would in most cases be "yes." However, if members of an associating family did have habits which members of the interviewed families detested, the answer was expected to be "no." For six resettlement projects combined, both in old and new communities, between 84 and 88 per cent of the interviewed families who responded answered "yes." (Table 16). For near-by non-associating families this per cent was only 70.

- 
14. Similar political affiliations meant that the husbands voted the same party ticket most frequently. If the husbands of either family or both families had not voted, the interviewed family's head was asked whether the visiting family had the same political leanings. No names of political parties were mentioned.

Table 15. PERCENTAGE OF FAMILIES HAVING POLITICAL AFFILIATIONS SIMILAR TO THOSE OF THE INTERVIEWED FAMILY WITH WHOM THEY HAD SPECIFIED ASSOCIATIONS, AT TIME OF STUDY AND PREVIOUS TO SETTLEMENT, 1 RECLAMATION AND 7 RESETTLEMENT PROJECTS AND 4 CONTROL GROUPS<sup>1</sup>

Residence	Associations			
	Visit	Exchange Work	Borrow	None <sup>2</sup>
Previous to settlement:				
7 resettlement projects	90	91	88	
Ashwood	95	97	96	
Bosque	91	84	80	
Cumberland	88	90	75	
Dyess	91	92	90	
Penderlea	81	79	79	
Ropesville	95	94	92	
Skyline Farms	90	96	92	
Klamath Falls	83	61 <sup>3</sup>	64 <sup>3</sup>	
At time of study:				
7 resettlement projects	91	92	92	88
Ashwood	93	91	90	88
Bosque	93	92 <sup>3</sup>	92 <sup>3</sup>	88
Cumberland	88	67	100	86
Dyess	90	94	94	91
Penderlea	88	83	84	73
Ropesville	100	100	98	99
Skyline Farms	92	94	98	86
Klamath Falls	93	80	92	93
Tortugas	59	100 <sup>3</sup>	86 <sup>3</sup>	83
South Holland	92	95	97	82
Neighborhood of--				
Bosque	87	100 <sup>3</sup>	90 <sup>3</sup>	96
Cumberland	74	76	75	74

1. See Table 3 for number of interviewed families and Table 4 for total number of associating families. The basis for the percentages in this table is the number of associating families for which data concerning the subject involved were available.
2. Do not visit, exchange work, or borrow although living close together.
3. Less than 15 cases involved.

Table 16. PERCENTAGE OF FAMILIES HAVING HABITS SIMILAR TO THOSE OF THE INTERVIEWED FAMILY WITH WHOM THEY HAD SPECIFIED ASSOCIATIONS, AT TIME OF STUDY AND PREVIOUS TO SETTLEMENT, 1 RECLAMATION AND 6 RESETTLEMENT PROJECTS AND 4 CONTROL GROUPS<sup>1</sup>

Residence	Associations			
	Visit	Exchange Work	Borrow	None <sup>2</sup>
Previous to settlement:				
6 resettlement projects <sup>3</sup>	86	84	85	
Ashwood	83	70	86	
Bosque	83	82	80	
Dyess	89	86	88	
Penderlea	77	87	79	
Ropesville	78	72	71	
Skyline Farms	88	91	82	
Klamath Falls	89	92 <sup>4</sup>	93 <sup>4</sup>	
At time of study:				
6 resettlement projects <sup>3</sup>	88	88	87	70
Ashwood	86	81	85	68
Bosque	87	69 <sup>4</sup>	83 <sup>4</sup>	51
Dyess	90	90	87	85
Penderlea	88	89	84	51
Ropesville	83	83	90	68
Skyline Farms	88	84	84	61
Klamath Falls	93	92	89	89
Tortugas	97	100 <sup>4</sup>	100 <sup>4</sup>	81
South Holland	91	95	97	64
Neighborhood of--				
Bosque	85	100 <sup>4</sup>	80 <sup>4</sup>	67
Cumberland	83	76	79	67

1. See Table 3 for number of interviewed families and Table 4 for total number of associating families. The basis for the percentages in this table is the number of associating families for which data concerning the subject involved were available.
2. Do not visit, exchange work, or borrow although living close together.
3. Cumberland Homesteads was omitted because of the small number of cases involved.
4. Less than 15 cases involved.

However, many (52 per cent) of the interviewed families gave no report for near-by non-associating families. As would be expected, all groups of interviewed families less frequently answered "yes" in regard to near-by non-associating than for associating families.

Without further explanation, the interviewed families were asked to list traits they had in common and in variance with the associating families that had not been previously touched upon in the interview. Space does not permit the listing of these traits. Suffice it to say that in all cases the associating families had more traits in common than the pairs of non-associating families living closest to one another. About one-third of the families associating with the interviewed families were reported to have traits additional to those previously covered in the study in common with the interviewed families on the projects and in the communities of previous residence. For near-by non-associating families this comparable figure was only about 10 per cent. South Holland associating and non-associating families indicated far greater homogeneity with respect to additional traits than any other group.

### Summary

(1) Forty per cent of the reporting families on six resettlement projects stated that they had become acquainted with the families which were visiting them at the time of study through an actual visit on the part of one of the families involved. Almost one-fourth of the acquaintanceships were formed under fortuitous circumstances, such as meeting in the road, at work on the project, or at social gatherings.

(2) A larger percentage of the seven resettlement project families borrowed and exchanged work on the project during the year of study than in the community of residence previous to resettlement.

(3) With only minor exceptions, associating families for all groups tended to resemble one another in the extent of formal and informal social participation and in the level of living.

(4) The resettlement families reported that the families who visited them more frequently also exchanged work and borrowed farm equipment more frequently, thus combining social and economic activities to a greater extent at the time of study than was the

case in the communities of previous residence. From this one might assume that, other things being equal, the informal associations on the projects had more significance to the families involved than those previous to resettlement.

(5) As might be expected, resettled families did not associate with kinfolks as frequently after resettlement as before. In the communities of residence previous to resettlement, greater percentages of associations were between kinfolks in the older Southern communities, in the Dutch village of South Holland, in the Indian-Mexican village of Tortugas, and in the area surrounding Bosque Farms, than in the more recently established Western communities.

(6) Relatively more associating families on the resettlement projects had children who played together than did other groups. Since children are an integrating force in social life, they may tend to make up for the lack of consanguinity as far as the integration of the resettlement projects is concerned.

(7) Families associating with families living on the seven resettlement projects lived closer together than was the case previous to resettlement. Distance played a very important part in associational patterns on the projects.

(8) It was slightly less common on the project than in the community of previous residence that associating families attended or were members of the same church. There was no evidence that resettlement has resulted in secularization. Homogeneity as to church membership was greatest for the Dutch community of South Holland and the Indian-Mexican village of Tortugas and least for the Klamath Falls group. The resettled families were between these extremes.

(9) Associating families on the seven projects more frequently had common membership in non-religious organizations and cooperatives than was the case for all other groups, with the exception of Klamath Falls. Thus the importance of the cooperative and other project organizations is apparent.

NORMAL AND ABNORMAL CHARACTERISTICS OF  
PERFORMANCE PATTERNS, with special  
reference to the duration of spontaneous  
states

by  
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and  
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Stanford University

in collaboration with  
J. L. Moreno, M.D.

PRESENTATION OF THE PROBLEM

The duration of a spontaneous performance, the warming up to a role, the individual acts of moving and speaking on the stage, the intervals between such acts, sudden interpolations of resistance against continuing a performance, the ability to respond during the performance to the acts and pauses of partners, the relative flexibility and inflexibility of the individual actor from step to step, the premature breaking up of a performance, the inability to end it or the protracting and delaying of an ending--all these phenomena experienced in the course of psychodramatic work have often given us clues to an understanding of the personality difficulties of the actor. They have enabled us to develop techniques for training a greater flexibility and an adjustment to situations and roles as they spring up on the spur of the moment.

The levels of the psychodrama in the therapeutic theatre are not easily adaptable to quantitative studies of performance. We had therefore to remove our experiment from the therapeutic theatre, where it was first intended to carry it out, to a situation and a role which would be as closely related to life as possible, and as simple as possible. We chose one of the most primitive performances, eating; the situation, the dining room; the role, that of the eater. In such a primitive performance, the acts would develop with relative spontaneity and would not be artificially prepared. We did this in the expectation that the results obtained would throw further light upon the processes of spontaneity training in the psychodrama.

The patients studied belong to a class which could not be reached in the therapeutic theatre without great difficulty. We adjusted ourselves to them and located their psychodrama on a



level where it could function. The auxiliary egos of the theatre became auxiliary egos<sup>1</sup> in the dining room, sitting near them and working with the patients by adjusting themselves to the characteristics of the patients' performances, in order that they might be able to "act" with them in the course of a meal.

The problem of eating, which is a barrier in the course of treatment of many patients, has been neglected by scientific workers. It has been left to nurses and attendants as being of secondary importance or as not amenable to scientific approach. In this paper an analysis of the performance of eating has been made from a quantitative as well as from a qualitative angle, with specific reference to selected mental patients, in the hope that it may aid the approach to other cases with adequate therapeutic tools.

Observations of normal individuals at the time of eating show that the duration of the performance and their behavior during the performance varies from situation to situation depending upon whether they are alone, with intimate associates, or with total strangers. Apparently the normal individual has sufficient flexibility to adjust himself in some degree to the standard of the people with whom he eats. However, it is probable that he is inclined to revert to an original pattern of performance as soon as the stress and strain of any cultural standard imposed upon him is removed. For this very reason, it is difficult to detect the underlying performance pattern of normal individuals.

The authors, however, found a convenient approach to the problem by making a study of mental patients in schizophrenic and catatonic conditions in whom certain performance patterns, like eating, had reached a high degree of inflexibility. These patients are withdrawn from inter-personal relations to such an extent that they display to a more or less degree the same performance pattern when they eat, regardless of whether they eat alone or in association with others. The performance pattern, which is hidden to a large degree in normal individuals, is for them on the surface.

Besides a high degree of inflexibility of patterns among mental patients, there is also a marked difference of duration of performance, which makes the need for its study more apparent. It is quite usual to find in any mental hospital not only the near-catatonic individual whose ability to perform spontaneously has almost ceased, but also the patient in a state of manic excitation who achieves such a degree of

- 
1. In the spontaneity process, a person who identifies himself with another person as far as organic limitations permit. (See Survey of Sociometric Techniques in this issue.)



intensity of performance that he almost reaches exhaustion. With the former, what is automatic in a normal person has become a difficult task, while the sole concern of the patient of the latter type is to do the task as quickly as possible, at the same time experiencing no difficulty in performance. At the one extreme we see a slowness which almost amounts to complete cessation of action, and at the other extreme, a velocity limited only by the degree of dexterity.

In view of these fundamental and well-defined differences, the authors assumed that if they could gauge the patients' performance patterns in (a) the trend of the performance duration and (b) its detailed characteristics, they might be able to diagnose the present status of the patient's mental condition, predict changes in his conduct without verbal communication, and perhaps devise techniques applicable to a special performance which might influence the patient's general condition.

#### TECHNIQUE OF MEASUREMENT AND FRAME OF REFERENCE

The study was made in a mental hospital where the situation and circumstances were particularly suitable for measuring simple performances. The staff and the patients have their meals in the same dining room and are seated in such a way as to eliminate the formation of cliques among the patients or staff members. The same arrangement prevails at the table from day to day.

In order to make this study, we were equipped with stop watches and, acting as participant observers, made two sets of observations, one checked against the other. The study was made in such a way that the staff and the patients were totally unaware that any notice was being taken of the duration of the eating performances.

Available was a group of twelve patients of both sexes and various types of mental illnesses, and an almost equal number of non-patients. For the purposes of this study, four patients were selected for observation, ranging over the whole scale from extremely fast to extremely slow eaters and embracing different types of mental illnesses. We also timed the eating processes of eight others, a mixed group of patients and staff, in order to get an average for the whole sixteen for a considerable number of meals.

Before the measurement of the eating process was begun, it was ascertained that the midday meal was the most constant in quantity and composition. We limited the measurement to the main course which usually consisted of bread and butter, meat, potatoes, and one other vegetable, plus a glass of water. We

limited ourselves to the main course since soup was not always served and the serving of the dessert and the coffee presented too much variation. The timing began when the above meal, together with knife, fork and butter-knife, were set before the patient, and stopped at the point when the patient had eaten all that was set before him or her--or had ceased eating entirely. No second helpings were taken into account.

We computed from the eating times of sixteen people over a period of several weeks the general average duration for a meal of a specific quantity. In this time, the sixteen people consumed 362 meals and it was from these that the average is drawn--12.2 minutes per meal. The typical meal consisted of 4 ounces of meat,  $3\frac{1}{2}$  ounces of potato,  $2\frac{3}{4}$  ounces of another vegetable, and 2 ounces of bread and butter. Since all the persons studied ate the same quantity, a common reference base was secured from which to measure deviations above or below the average. In order to study further deviations in characteristic details during the performance, Moreno's analysis of the warming up process<sup>1</sup> during a spontaneity state was followed as a guide. The performance of eating was broken up into a starting interval, the act of eating a portion of food (composed of selecting, lifting, and chewing), and pauses between the acts of eating.

#### ILLUSTRATIONS OF CASES

We now present a short description and chart of each of four patients who were studied intensively. In addition, we present a composite graph of these four patients and a graph which shows an analysis of the components in the process of eating one main course.

##### Case No. 1

Barbara is a woman aged 49 whose diagnosis is involutional paranoia. When not occupied she sits wringing her hands. In any performance she is absorbed in the effort to get through with it. Her warming up to an act is so short as to be

- 
1. The effort made by an individual through the use of physical or mental starters to reach a spontaneous state. In a broader usage it is a process which may continue throughout the whole configuration of starters, acts, pauses, and interpolation of resistances through which a subject may go, once he has started to shape a performance on the spur of the moment.

practically nil. When the luncheon gong rings, she starts immediately for the dining room and goes to her accustomed place. She is usually the first one at the table. When the food is served, she almost pounces upon it. There is no appreciable interval between mouthfuls. She pays no attention to anything going on at the table but is absorbed only in getting through. If there is a pause in the meal or the service is slow, she may leave the table and return when served.

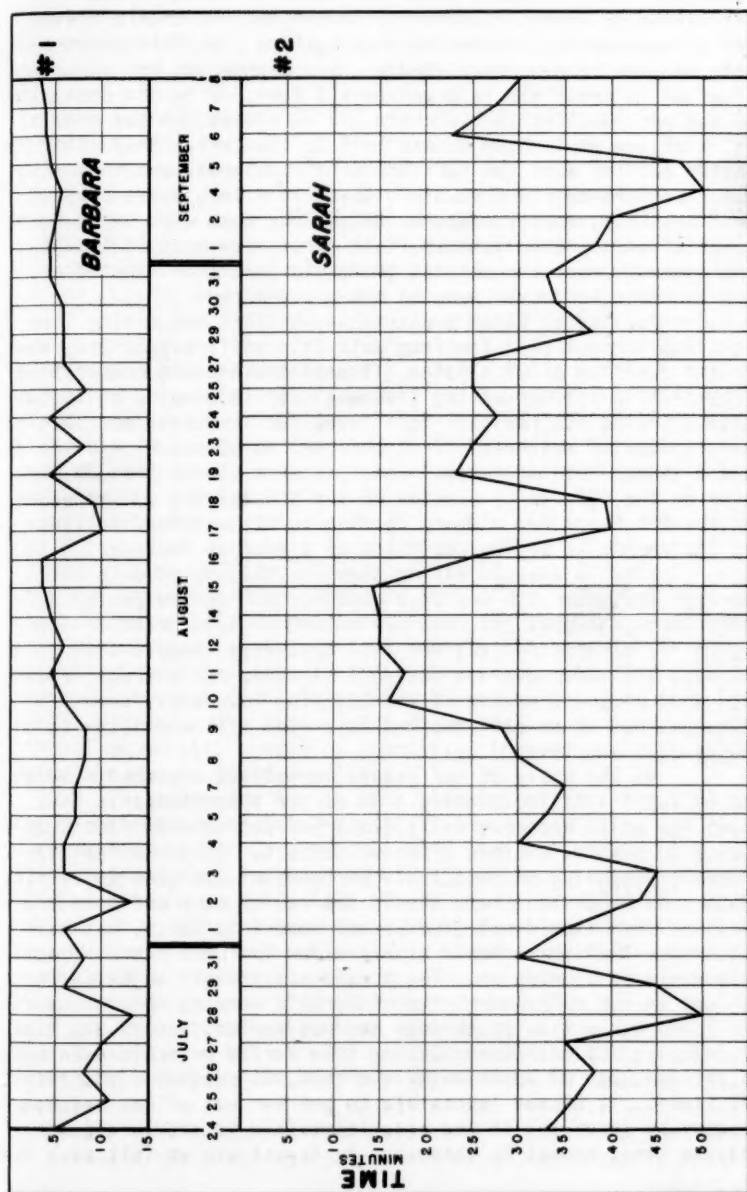
From July 24th through August 2nd, Barbara's graph shows great irregularity within the narrow range of from five to fifteen minutes' duration for her eating process. During this period there was no stability and the variations did not correspond with those of the majority of the patients, except in rare instances. All this time--as indeed throughout the period of this study from July 24th through September 8th--she was the fastest eater. This was perfectly consistent with her behavior. Her average was 6.5 minutes, or about half the average duration of 12.2 minutes. From August 3rd through 16th we see a period of comparative stability at a fast level, in fact, her extremes during this period are  $3\frac{1}{2}$  and 8 minutes. All this time her nervous and muscular tension was very marked and her moaning more constant than usual. She was always very restless and her behavior became ruder and more abrupt.

On the 17th she started another period of comparative slowness and unevenness which lasted for ten days. We noticed in her general conduct a gradual decrease in tension, and on the 17th and 18th, at the peak of slowness since August 3rd, she began to be more friendly and communicative. She began to help in setting the table, in cleaning and dusting the rooms, and to perform little favors for the nurses and the other patients. She entered into the general conversation at times and was even seen to smile once or twice. This was unusual.

On August 27th she again settled down to a period of stability at rapid tempo in her eating process, which extended through September 8th, varying from  $3\frac{1}{2}$  minutes to 6 minutes. With this her tension has returned and the moaning with it. This implies a bad prognosis for the next period. (See Chart 1.)

#### Case No. 2

Sarah is a woman aged 44, diagnosis is manic depressive psychosis. She is extremely resistant to almost any performance and her warming up to an act is disproportionately slow. She spends her time sitting on the edge of a chair, repeating words over and over again, or walking back and forth very slowly in front of her chair, slowly wringing her hands and stroking her



\*The authors wish to give credit to Mr. Sanford Schrank and Mr. Ira Markwood for the drawing of the charts in this paper.

forehead. When the gong rings for meals she seems unaware of it. Although coaxed repeatedly, in the end she nearly always has to be propelled to her seat at table. Even then she can only be made to move very slowly. She approaches her chair and stops by it until she is urged to sit down. This she does slowly and per position in the chair is, as always, on the edge of it, with her whole body turned half to the left. Only after repeated coaxing does she take her first mouthful, and then with great resistance and distaste. There is a long pause after each mouthful, and it seems as though she must warm up to each mouthful separately, just as if it were a new meal in itself. She seems to resist sweets at the table less than vegetables, and to meats her resistance is extremely marked.

Looking at Sarah's chart, we see that her eating time remained irregularly slow from July 24th until August 3rd, when, from a duration of 45 minutes, it accelerated with comparative regularity until her eating time was only 16 minutes on August 10th. She maintained this fast level for five days and then began to slow up again--at first sharply, to 40 and 41 minutes on the 17th and 18th of August, and then more slowly from 23 minutes on the 19th to 47 minutes on the 4th and 5th of September. On the 6th there was a sharp upswing to 22½ minutes, followed by what seems to be the beginning of a gradual decline.

Sarah's average eating time for the period July 24th through September 8th was 31.8 minutes; during the period July 24th through August 8th, she was below her mean, with an average of 37 minutes; during her five best days--August 10th through 15th--her average was 15.4 minutes; her average during the good period from August 9th to 27th, inclusive, shows 24 minutes, but if we omit two bad days--the 17th and 18th--it shows 21.3 minutes.

On the basis of our study, we noticed a marked slowing up in Sarah's eating process. We warned the attendants that soon she would become greatly disturbed and more difficult than usual to handle in other types of conduct. This, in fact, occurred, beginning on the 27th. Her conduct was good up to that date. We suggested that, should she resist more and more to eating, they should not give up and resort to force, but have patience--that they should simply allow her more time, because she would be slowing up. The nurses accordingly adjusted themselves to the retarded rhythm of Sarah's warming up process and followed her patiently through her bad period, not at any time using physical coercion. During this period we noticed in her a decided loss of spontaneity--in fact, it reached a standstill at times. It became impossible to get her out of her bedroom except by force and it was also impossible to accelerate her eating time, except by threats. By August 8th we felt sure that

Sarah had begun a real period of acceleration. Here again we were able to tell the nurses that she would show greater spontaneity all around, and again this proved to be the case. For instance, during this period, which lasted eight days, she came downstairs from her room as soon as the gong rang for meals without the assistance of a nurse, and needed almost no coaxing before starting to eat. At the same time, she showed less tendency to isolate herself during the day, and instead of secluding herself in her room, went of her own accord and sat on the porch. All during this time she chose a chair among the other patients on the sunny side of the porch, instead of away from them and alone on the shady side where she habitually remained when her spontaneity was low and her eating process slow.

By August 17th, the chart indicated that this period was at an end and the next few days justified our prediction. Sarah had regressed considerably. But she did not fall back entirely to the slowness in eating and the generally difficult behavior which characterized the period from July 24th to August 8th. Her average from August 16th through September 8th shows 32.4 minutes, indicating a return to only slightly below her ten-week average.

Altogether, this graph of Sarah's eating process shows the late period of a long acute process which has become stationary. Here we have a "frozen pattern" such as is found in many catatonic and near-catatonic conditions. The long and extended duration of her meals is apparently the best she can do under tremendous stress. Within certain limits which we have studied, her performance curve has become characteristic for the present stage of her disease. Since she has been able to reach a livable and steady rate in her eating performance she has put on weight, gradually increasing from 96 pounds to 121, where she was on September 8th.

It is because of the very slowness or long duration of every performance on Sarah's part that we are able to note and observe the warming up processes with some accuracy. Later in this study we shall analyze minutely Sarah's motions, pauses and the different phases in a single course at the dining room table. If we compare Sarah with Barbara, we see that the latter, in her acute phase of anxiety, takes a positive turn and rushes into a maximum of activity, whereas Sarah takes a negative turn and stops eating entirely. When Sarah turned positive and began to put on weight, she was only able to reach a very low level in the warming up to the act of eating. She remained infinitely close to the brink of zero performance.



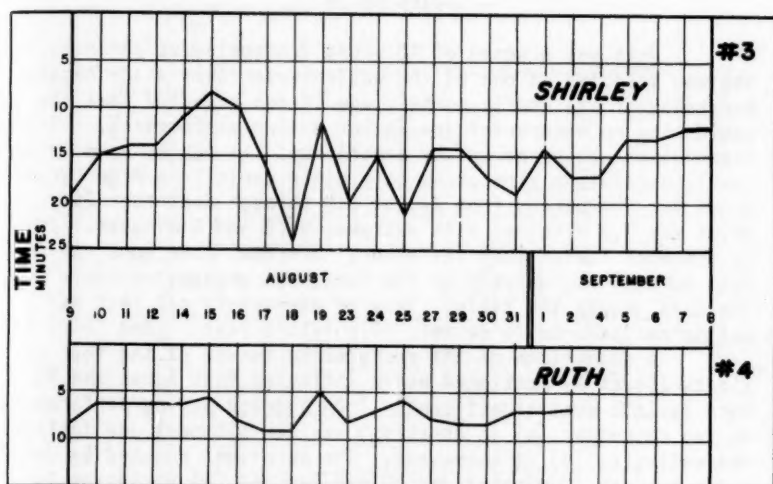
Case No. 3

Shirley, a woman of 59, diagnosis: involuntional paranoia. She is constantly worrying about the well-being of her family, and of her son, in particular. She is quieter when he is with her and can assure her that he is well and not in trouble. From time to time she gets an hysterical paralysis of the legs. She gives no indication that she hears all that goes on around her, but does so, nevertheless. At the gong, she makes an exclamation of boredom and disgust, but submits readily enough to being started toward the dining room. She walks uncertainly, and seats herself deliberately. She eats fairly spontaneously, but needs a little urging at the beginning and end of each meal, although she seems to enjoy her food well enough.

We observed Shirley for twenty-four meals, from August 9th through September 8th. Her average for this period was 15.7 minutes. We see that she is extremely variable in the duration of her eating process; in fact, on only four occasions during this period does she take the same length of time for any two consecutive courses. Indeed, she seems to be continually varying from her average, ranging as fast as 8 minutes, on one occasion, and as slow as 21 minutes on two. (Observation leads us to the conclusion that her variations are due principally to a real or pretended fastidiousness about her food. Although at first glance she seems to eat with a good appetite, she loses interest quickly, and in order to avoid eating all that is on her plate, begins to find fault with and set aside bits of food. All the bits of food are perfectly edible, but by reducing what remains on her plate to a thin, even layer of apparent rejections, she imagines that she will be excused from eating any more, and makes repeated attempts to set aside her plate as being finished. Although this device seldom succeeds, she keeps on trying, and mumbles and complains under her breath when it fails. On rare occasions, all the food on her plate meets with her approval and she eats it fairly fast, but still with seeming resentment.)

Although Shirley's eating time was 3.5 minutes below the average (12.2), the greater flexibility of her performance as expressed by the variations on the chart compares favorably with normal performance curves. The reading of the chart agrees with Shirley's general adjustment to the institution. (See Charts III and IV.)





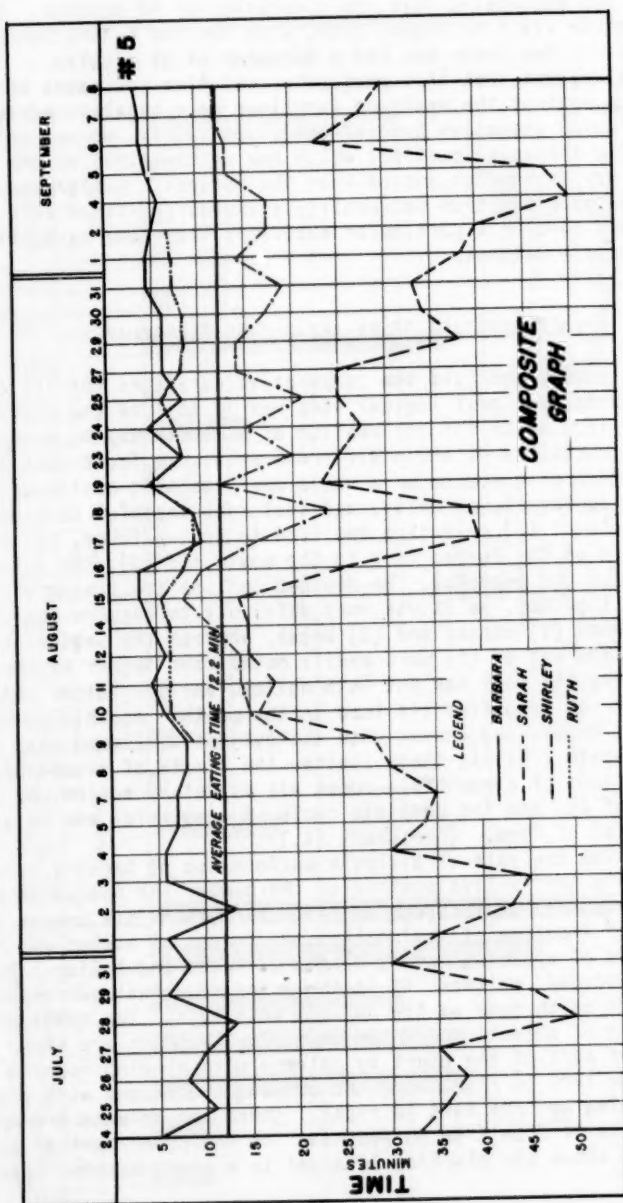
## Case No. 4

Ruth was a woman of 40 whose diagnosis was paranoia. She was selected as one of the patients for this study because her behavior was nearly normal, and it was expected that she would show no excentricities in her eating performance. This expectation was borne out by experience. As may be seen in her chart, her eating time shows only minor variations from her average for the period from August 9th through September 2nd, which was 7.3 minutes, with extremes of 5 and 9 minutes. This is somewhat faster than the general average. She does not devote herself exclusively to the food, but engages actively in the talk around the table. Thus we may safely say that her eating performance is normal, if a little fast. (See Chart IV.)

A comparison of the performance curves of the four patients (Chart V) mentioned above indicates that Sarah and Barbara deviate most significantly from average eating performance in two respects; (a) in duration, maximum slowness and fastness, respectively; (b) in unevenness. The durations reached by Sarah range between 12 minutes and 50 minutes and the variation in between are most frequent. Similarly, the durations reached by Barbara range between 3 minutes and 14 minutes and also the changes in between are very frequent. In comparison with these two, Ruth shows a markedly even performance throughout the period studied although she eats fast. Shirley shows a greater range of variations than Ruth, although she is slower in eating than the average. Since the social situation in the dining room has been virtually the same during this period--no change in patients or staff was made--no social influence entered the situation from time to time which might account for such extreme variations. Among normal individuals, variations may be detected when they move from one situation to another which may suggest to them an adjustment of their eating habits and eating time to a particular standard. Variations which we may read in their performance curves would have to receive a different explanation than the one which is given to Sarah and Barbara's curves. Their great unevenness is a true result of their inner, spontaneous restlessness, a psychotic pattern.

The fact that we are able to find for certain groups of mental patients, who have established and organized themselves upon a certain level, a characteristic and spontaneous performance curve, gives us a basis to study drastic changes in the curve whenever some stimulus is consciously introduced. Such an observation has been made with Sarah.

From time to time a close relative of hers visited her and sat near her at the table. Such a visit took place on August 15th, when we note a duration of 14 minutes. She advanced,

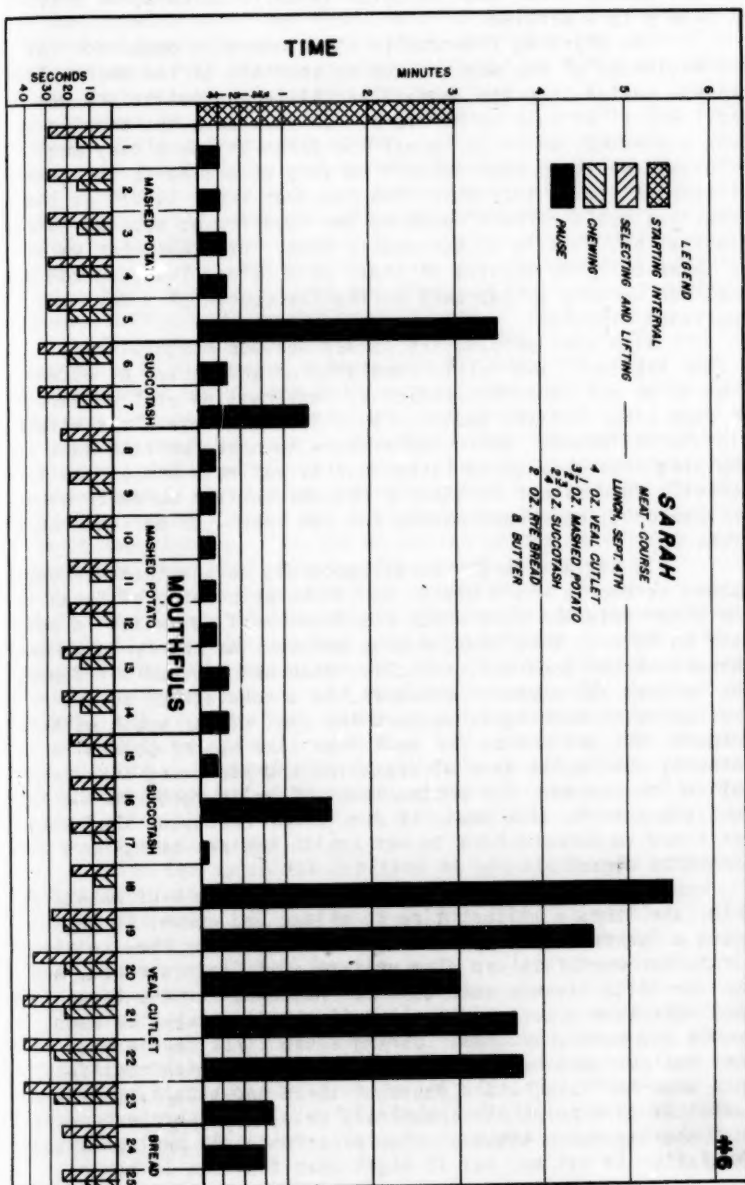


on the two successive days, to a duration of 40 minutes. She had another visit on August 27th, when she had a duration of 25 minutes. A day later she had a duration of 38 minutes. These changes suggest that this particular relative increases her resistance against the meal and functions as a negative personality stimulus (negative tele effect). Similarly, we are able to study the therapeutic effect which one or the other of the nurses may exert when seated near the patient. Assignment may function as a positive personality stimulus (positive tele effect) and develop a particular auxiliary technique as applied to a certain patient.

#### INTERPRETATION OF AN INDIVIDUAL PERFORMANCE

Having observed the comparative durations for the entire course, our next logical step was to analyze the divisions or acts into which the consumption of a course may be broken up, and the durations of these different acts. We found that the consumption of a course or a whole meal was most easily divided up into mouthfuls, as units, and that each mouthful consisted of a cycle of (1) selecting the food to be swallowed, (2) the conveying of the loaded fork to the mouth and (3), the actual chewing of the mouthful. We decided to lump the timing of (1) and (2) together, as it was very difficult to observe the exact moment when (1) ceased and (2) began, whereas the beginning of (1) and the end of (2) were easily noted, the former at the instant when the fork was put into motion, and the latter when the fork had deposited its load in the mouth. At this point, too, (3) began, and ceased when the subject swallowed what was in the mouth. Within these limits--the limits of these three subdivisions of a mouthful--comes all voluntary action, or cessation of it, and the complete cycle of a mouthful may be said to consist of them. (See Chart VI.)

The analysis of a single performance of Sarah's is divided into twenty-five mouthfuls, the number she needed to eat the main course at luncheon on September 4th. This course consisted of 4 ounces of veal cutlet,  $3\frac{1}{2}$  ounces of mashed potato,  $2\frac{1}{2}$  ounces of succotash and 2 ounces of bread-and-butter. We have indicated, on Chart VI in the order of actual performance, the foods which made up the various mouthfuls. The combined processes of selecting and conveying to the mouth are shown on the lower part of the chart by columns with shading running down from left to right, and the chewing by columns with shading running up from left to right. These two columns are shown on a scale of from 0 to 50 seconds. In the upper part of the chart is shown the starting interval in a cross-hatched column,



and the pauses after each mouthful in solid columns, on a scale of from 9 to 6 minutes.

The starting interval is shown where it occurred: at the beginning of the meal, hence on the left of the chart. This process lasted from the instant her plate was put before her until she first took up her fork. In this case the warming up took 3 minutes, which is normal for Sarah at the midday meal. At breakfast it is much longer, varying according to her general spontaneity on that day. She has been known to sit at the breakfast table without touching her food for as much as thirty minutes, but this is exceptionally long. At dinner her warming up takes only two minutes or less, as a rule. Thus, we can say that her warming up improves during the course of a day, and regresses overnight.

With most people, the pauses between mouthfuls are either habitual, and fairly constant, or are caused by attention to or active participation in conversation at the table, or some other outside factor. With Sarah, however, the situation is different: she neither seems to hear nor take part in anything that goes on at table, but is entirely wrapped up in herself. She either constantly repeats certain words to herself or remains silent. Her pauses are the result of an inner condition.

To begin with the first mouthful, we see that she chose mashed potato to start with. It is characteristic of Sarah that she first eats the food which she likes most, or which is most easy to eat--in this case, mashed potato. As nearly as we could observe, Sarah does not, strictly, chew her food at all times. She reduces it, whenever possible, to a consistency suitable for swallowing by rubbing it against the roof of her mouth with her tongue. Her preference for soft food like mashed potato is apparently due to its ease of digestion and its being less harmful to her system. The postponement of solid foods to the last possible moment, like meat, is due to her obsession that they are bound to do more harm to her health besides being more difficult to digest.

We see that, for the first five mouthfuls of mashed potato, she takes a uniform time to select and convey to her mouth a forkful: thirty seconds. The times for chewing the first four mouthfuls are also uniform at fifteen seconds, and for the fifth, twenty seconds. The pauses after the first four mouthfuls have also been nearly uniform at fifteen, fifteen, twenty and twenty seconds. During these first four pauses she does not put down her fork. Then, after the fifth mouthful, she puts down her fork, and a pause of three and a half minutes ensues. At this point she apparently gets tired, or perhaps feels that she has eaten enough. From experience she must know that the latter is not so, but it might seem that she is hoping



against hope that she need not eat any more. During this pause she continually moves her lips, talking to herself. Towards the end of the pause she ceases this, and turns her attention to the food. With almost painful deliberation she again takes up her fork and begins to eat the succotash. With this, perhaps because it is slightly more difficult to handle, her selection and lifting times are longer: thirty-five seconds. She takes only two mouthfuls of succotash, which take ten and fifteen seconds to chew, and then pauses again, this time for one minute and fifteen seconds, although the pause between the two mouthfuls was only twenty seconds. During this relatively long pause she does not put down her fork, but is apparently trying to come to a decision. This she does, in favor of the mashed potato, to which she accordingly returns.

From the eighth mouthful through the fourteenth she is occupied with the mashed potato, and finishes it. After the first mouthful of it, she maintains an even rate for both selection and lifting, and the chewing, but she begins to slow up at the twelfth mouthful, and at the fourteenth and last mouthful of mashed potato, she is back where she was at the eighth: thirty-five seconds for the selecting and lifting, and ten for the chewing. During these seven mouthfuls her pauses have been uniform at ten seconds, with the exception of the thirteenth and fourteenth, when they were twenty seconds.

It requires the next four mouthfuls to finish the succotash, the fifteenth through the eighteenth, and we see that, mechanically, she is constant at twenty seconds for the lifting and selecting and ten seconds for the chewing. The pauses after the fifteenth and seventeenth mouthfuls are short: ten and five seconds, but right in the middle of eating the succotash, at the sixteenth mouthful, we see that she paused for one and one-half minutes. This reflects her dislike of succotash, and her growing apprehension of the meat, which she has not yet touched. At this point she lays down her fork, and the nurse beside her, for the first time, has to encourage her to continue.

With the succotash finished at the eighteenth mouthful, Sarah again puts down her fork and there ensues the longest pause of the meal. It can be seen that there is nothing left for her to eat except the meat and the bread-and-butter. The latter she always leaves for the last, in the apparent hope that it will be overlooked, but it is the meat which gives rise to the greatest resistance in her. It has been cut up for her by the nurse, in order to remove at least this obstacle, but Sarah makes no move. She simply sits still, with her face half turned away, her lips moving silently. At length the nurse persuades her to take the first mouthful of meat, the nineteenth of the course. By this time twenty-seven minutes have elapsed



since she first took up her fork, and, as we shall see, twenty-three more remain before she finishes.

Sarah's preference for eating certain foods first and postponing certain others, such as meat, to the last, has, as we have seen, a quantitative expression in the variation of the interval durations. The more intense the protest against a certain food, the longer will be the interval before she undertakes a mouthful of it or between any two mouthfuls of it. These intervals are provoked and prolonged by the compulsory emergence of certain visual and olfactory images which result in feelings of distaste and disgust; in fears and anxieties as to what the food may do to her body, and the misery it may engender for her. Sarah's negative attitude toward food and the performance of eating is, as we have seen, a perverted theory about its--to her--horrible results.

After her nineteenth mouthful--the first of meat--Sarah pauses for four minutes and thirty-five seconds. She lays down her fork, and her attitude is final. During the latter half of this pause the nurse is trying to persuade her to begin again of her own volition. Sometimes this succeeds, but more often the filled fork has to be placed in her hand and her hand conveyed part way, at least, to her mouth. During the next four mouthfuls, until the meat has been finished, this process is repeated. The last mouthful is fed to her by the nurse. It is while she is preparing for these mouthfuls of meat that we see the effect as a brand new warming up process for each mouthful, just as if each were a complete meal in itself. Her pauses between these mouthfuls run from three minutes to three minutes and forty-five seconds. Altogether she has taken fifty minutes, divided as follows:

Starting interval	3:00	} minutes
Selecting and lifting	9:55	
Chewing	5:35	
Pauses	31:30	
Total		50:00 minutes

What prolongs the duration of a meal in Sarah's case is not so much the active elements of each mouthful, but the exaggerated intervals between mouthfuls. These pauses are more and more protracted as the meal approaches its end. Thus she makes it extremely hard for herself to bring a meal to an end. All the others will have left the dining room and she will be sitting alone and still eating. It is like a "performance neurosis" transplanted to eating.

A similar analysis of a sample course for Barbara

showed that she is so intense and hurried in her method of eating that no intervals were apparent. She at once crammed her mouth full, and began chewing very rapidly and swallowing bit by bit. As her mouth became empty, bit by bit she began to refill it. This swallowing and refilling continued regularly until she was finished, and her mouth seemed to be quite full the entire time. She did not stop chewing from beginning to end of the course. Thus her consumption of the course is like one long mouthful, constantly being emptied, in part, and refilled, simultaneously. We could show no divisions between mouthfuls, no cessation of chewing. The mouth was simply refilled at short, regular intervals with very small quantities of food.

In comparing the pause-intervals relations in the records of Sarah and Barbara, we notice that Barbara has, at times, an interval of but 1 to 2 seconds between mouthfuls, at other times no interval at all, and then again, she sometimes starts a second and a third mouthful before the first has been wholly swallowed. Thus, where an interval might be expected, Barbara shows less than no interval. This we have called a "negative" interval. The acts, themselves, overlap, and the fact that she has no pauses also reduces the duration of her acts to a minimum. No one single act is completed before the start of the next; the food is not properly chewed, but is swallowed prematurely. Both the lack of pauses and the presence of negative intervals are responsible for incomplete acts. It is similar to the overheated warming up in spontaneous performances in

1. The time or duration of such meals can be expressed by the following formula:  $T$  (total time) equals  $S$  (starting interval) plus  $N$  (number) times  $A$  (time of average act) plus  $N_1$  (a different number) times  $P$  (time of average pause). In the case of Sarah's meal mentioned above, her average act lasted 37.2 seconds, her pauses averaged 78.75 seconds, her starting interval 180 seconds (3 minutes). We know that she took 25 mouthfuls and needed 24 pauses. Therefore her formula would read:  $T = 180 + 25 \times 37.2 + 24 \times 78.75$ , or  $T = 3000$  (seconds) which make 50 minutes.

At the same meal, Barbara needed 50 mouthfuls. 5 very short pauses were observed, and no starting interval was needed. She took  $5\frac{1}{2}$  minutes for the meal, or 330 seconds. The time of the average act was thus 6.6 seconds, and her pauses averaged 3 seconds. We could not time the negative intervals, but their total may be computed when we use the above formula, with slight modification. Thus:  $T = 0$  (starting interval) +  $50 \times 6.6 + 5 \times 3 - T_2$  (total of negative intervals). We know she took 330 seconds, so the equation simplifies into this:  $330 = 330 + 15 - T_2$ , hence  $T_2 = 15$  seconds.

speaking and in role presentations as observed in the course of psychodramatic work.

The performance patterns observed have many characteristics similar to the patterns observed in the psychodrama. Many techniques of the psychodrama can be projected into the dining room, and studied in a fundamental life situation. The analyst of the theatre becomes a participant observer in the dining room and watches the mute psychodrama of a meal.

The role of the eater is one of the most fundamental roles for the infant. The baby's performance during the feeding process is a continuum of acts hardly broken by an interval. It takes a breathing spell only after a chain of acts bring about an abrupt pause. In the evolution of a performance state the act must be considered as primary, and the pause considered largely as a secondary and later development. It appears from observation that the function of pauses develops more rapidly as soon as the infant learns to use tools for eating and when it begins to eat with others. The pause is the result of normative social process.

Evidently, acting and pausing develop in the evolution of a specific performance an interrelated dynamic quality. In Sarah's case this dynamic function of pausing is perverted. It is indeed, as a more detailed analysis shows, only apparently a pause. The pause is masking a new underlying act or a series of acts which attach her mind to one or another of her fears of ideas. By these interpolated foreign warming up processes, her return to the performance of eating is extremely handicapped. Indeed her pauses are often so perverted that they consist of a true pause plus a chain of foreign acts plus a starting interval towards a new mouthful. In Barbara's case the situation is different. It is the act which is perverted, and not the pause.

### CONCLUSIONS

This study demonstrates that the warming up process consists of specific acts and intervals. While an individual eats, such acts and intervals vary in duration. The rate of frequency with which one act follows another is characteristic of each individual. It can be so speedy that the intervals between the acts are around zero, or so drawn out that they become the essence of an individual's warming up process. In this case the acts appear like occasional breaks in a continuum of pause.

Each individual therefore shows a characteristic performance pattern which offers significant clues to his general condition. In the case of the patients studied, the performance pattern from day to day enables the physicians and nurses

to diagnose the present condition of the patient and to foresee and predict certain specific changes in his conduct. This fact is of particular importance in the case of patients with whom verbal communication or contact is extremely difficult or unsatisfactory. It is a reliable detector of the actual inner condition of the patient. It photographs the reflection of the inner condition of the patient in a basic spontaneous performance.

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## SOCIOMETRIC WORK WITH A BULGARIAN WOODCUTTING GROUP

by

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In the late autumn, when all other farm work has been completed, the villagers of Dragalevtsy<sup>2</sup> turn their attention to the gathering of the winter's supply of wood. The scene of their activity is a wooded section of the mountainside, three or four miles from the village, determined in advance by a forester's decree. Most of them toil gladly since all winter long they must continually feed the wood into the ever-devouring gullet of the sheet-iron stove standing in the center of the living room. No twig is too small to find its way there.

It would be wrong to imagine that the villagers were doing any lumbering, even on the simplest scale. Most of their activity centers around the task of cutting down brush as high as a man's head, or of felling trees so small that a pair of hands could include the trunk in its grasp.

### 1. Membership of Group

There are ten wood-gathering groups in the village. Before 1931 individual families went to the section of the forest opened up for the people of Dragalevtsy and took all the wood they could get in the time allowed. This system had two chief faults, according to Yurdan Chalukov, the Assistant Mayor at the time: in the first place, the members of the political party supporting the mayor learned beforehand at what time the forest would be opened to the villagers and stole the march on the others by going there on the day assigned, although the other villagers did not learn about the opening until two or three days later, by which time the best wood had been collected.

The second chief fault with this system was that

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1. For six years (1929-32; 1935-37) connected with The American College Sofia, Bulgaria.
  2. Dragalevtsy, a village of 1669 inhabitants, located four miles from the outskirts of Sofia, Bulgaria's capital city. The peasants of that region are generally regarded as very conservative by educated Bulgarians.

families with more able-bodied workers gathered the most wood, although they paid perhaps less taxes than those who got less. In order to eliminate these evils, a new system which is peculiar to Dragalevtzy alone was inaugurated. The near-by villages, for instance, still use the older method of permitting each family to "grab while the grabbing is good." Now, the Obshtina<sup>3</sup> divides the village into ten groups; the part of the forest made available to the villagers is likewise divided into ten sections; each group thus has a limited section in which to work. The Obshtina usually divides the village according to neighborhoods, though sometimes one family from a larger neighborhood is assigned to the group of a smaller neighborhood in order to make the number of families average about thirty for each group. The only case of this kind in Group X, which we are studying, is that of Krüstan Arnaudski, who lives across the river from the others.

The Obshtina lists the names of the family heads in making out its divisions; theoretically these family heads are supposed to go collectively to get the wood for their households. In other words, they are supposed to constitute the group. However, variations occur. Some of the family heads are too old or too busy or too lazy to go. In that case they do one of three things: (1) they send their married sons who live with them, these sons performing the work more capably than the older men could, (2) they hire village youths from other neighborhoods to go and gather the wood for them, or, (3) they send weaker members of their own family, such as younger boys, the older girls, wives, or--in the case of one lazy man--a mother.

Thus, in reality, the group of wood-gatherers varies from day to day as regards the actual personnel of those working in the forest. We might say that most of those working there are family heads or able-bodied married sons, though mixed with them are women, girls and younger boys. Before sending a substitute the family head is supposed to get permission from the group leaders. The failure to do this results in many quarrels and, as one leader says, "makes a man quarrel with his best friend."

The reason why the presence of women and children is frowned upon lies not so much in the objection to women and children working as it does to the fact that women and children cannot do as much work in a day as a man. Since all the cut wood is piled into thirty different piles, one for each family, and the piles later distributed by lot, those who work hard each day get no more wood than those who do less work or who send weaker substitutes.

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3. Obshtina--used here in the sense of the local governmental unit under the direction of a mayor appointed from Sofia.



The question arises as to the classification of this type of group. On the basis of admission to membership, we can conclude that it is chiefly involuntary since the family heads are assigned by the Obshtina and since the family head can order members of his family to replace him in case he does not care to go. Only in the case of outsiders gathering wood for pay does the group seem voluntary. The group is secondary as far as function is concerned, but partakes of certain primary group characteristics when we notice that the Obshtina usually divides the village up according to neighborhoods. Thus we have many persons accustomed to associate as neighbors interacting along economic rather than social lines.

## II. Duration of Group

The group is temporary, since the Obshtina lists have varied from year to year. However, for thirty days the wood-gathering continues, halted in bad weather but energetically pursued in good weather, even on Sundays. During this period there is constant interaction between the members of the group, who get to know the working qualities of the others in an intimate way. The most exciting day of all is the day when the wood has been piled up, the piles numbered, and the family heads take their turn drawing lots for the piles. It is then that the whole family comes in the ox-cart to haul the wood home. There is joy as though a harvest were being gathered. Each family usually takes home from four to five ox-carts full of wood, most of which consists of branches or scrub-growth. After the wood is stacked in the yard, the group is ended; its existence is terminated by the completion of the job it set out to do.

## III. Structure of Group (Relationship)

With thirty individuals, unequally divided as to ability or inclination to work, there must be some sort of leadership to keep the group functioning effectively. The nominal leaders are two men appointed by the Obshtina, one as superintendent and the other as his assistant. Leaders appointed by the Obshtina usually serve even though they profess an unwillingness to do so. Some members of Group X point out that those who do the most talking against the way the present leaders discharge their functions are themselves loath to accept the responsibility if it is offered to them. The leaders of Group X this year were Stoyanche Chalukov and his god-son (almost his equal in years) Yurdan Chalukov.

The leaders of all ten groups gather on an appointed



day to visit the forest with the forest policeman, who shows them how the forest has been divided into ten sections. The leaders then draw lots to see which section will fall to their particular groups. On the day of the visit this fall neither leader of Group X went because each one thought, or at least hoped, that the other leader would go. It so happened that Group X got what its members considered the worst part of the forest, though the leaders maintain that their absence had nothing to do with the section allotted. Upon seeing the state of things, the leaders of Group X went to the mayor and asked that some re-distribution be made on the grounds that the forest had not been equally divided. As such re-distribution seemed out of the question, the mayor suggested: "You go ahead and cut down the wood in your section, and the priest and I will come and visit the forest and see whether people in other sections have bigger piles than you. If they do, we'll re-distribute then." But the mayor and the priest never made this visit with the result that the members of Group X have nothing but complaints as consolation.

The duties of the leaders are burdensome. They must decide whether the weather permits work in the forest or not; they must accept or reject some family head's proposal for substitution; they must argue with those who do not work well; they must direct the making of the piles and the equal distribution of the wood among these piles; furthermore, they must keep a record of those who come to work and those who do not. The only authority vested in them is the right to report to the mayor the name of any man who they think should not be given any wood for failure to do his share of the work. However, no such instance occurred this past year.

Quite often a group has a formal structure in addition to the actual structure. This formal or theoretical structure corresponds to the plan of a house; the actual structure corresponding to the shape, relationship of the parts, etc., which may be quite different from the original plan in even so definite a field as architecture.

The woodcutting or wood-gathering Group X has two leaders appointed by the *Obshtina*, under whom the family heads are supposed to work. This is the plan, but we notice that there are variations since many family heads send substitutes. Our first problem is to see whether the appointed leaders are the actual leaders: that is, to see if the plan of the group corresponds with the structure as we discover it.

In order to accomplish this I followed Moreno's method as explained in his book "Who Shall Survive?" namely; to ask each member of the group which five men he preferred and which five he would eliminate if he were choosing a group of his own

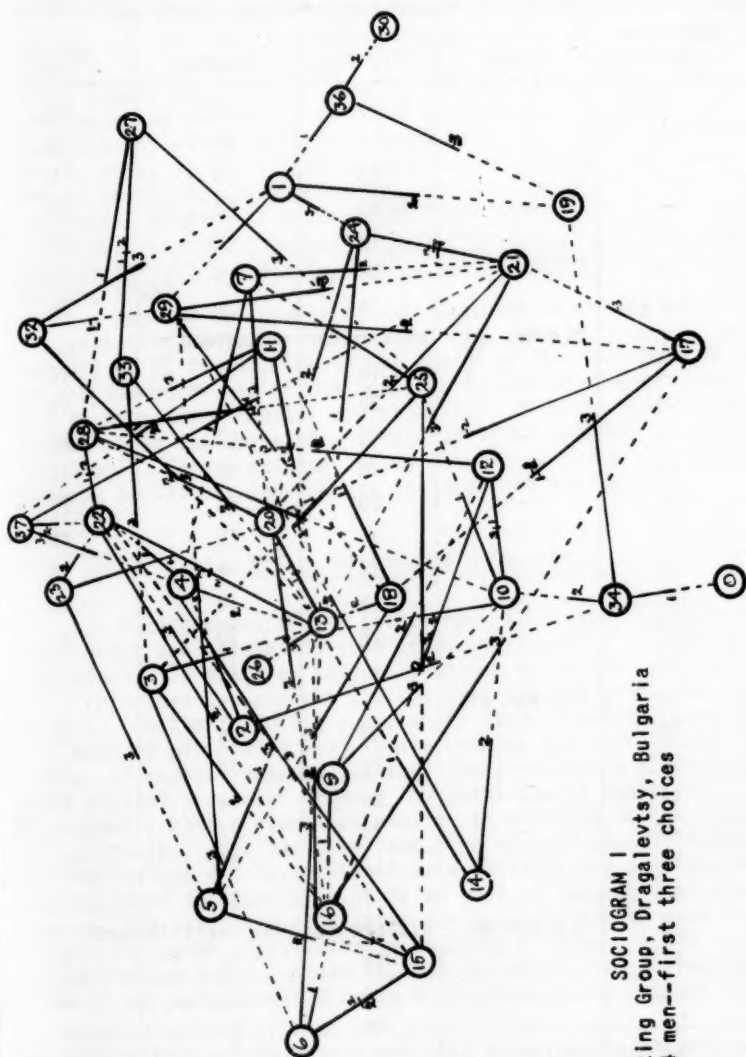
with direct reference to one activity--the gathering of wood, and with no interest at all in the question of the friendship involved.

Each of the family heads on the Obshtina list furnished us with the information desired. Where some family heads had sent substitutes, we interviewed the substitutes instead. A few people, neither full-time substitutes nor family heads, who worked in the forest from time to time in the place of someone who stated away were interviewed if they were mentioned twice by others. The only exceptions were numbers 19 and 30, both of whose fathers we interviewed. Some family heads who did not go to the forest were mentioned either as desirable or undesirable and their names were included on the list which formed the basis for the diagrams.

There was no way of cross-checking to see whether the answers were correct; nor was there any reward to hold up to them in order to identify their emotions with their answers. In this respect, one might consider the method open to question. However, each man was told: "There will be no reward for you in answering these questions, nor will any harm come to you as a result. If you answer, it will be simply out of kindness and because of your desire to help me." Such an approach met with a splendid response, since practically all of the villagers knew that a "book" was being written about their village and were eager to help in its preparation. I am inclined to believe that in most cases this desire to help on the part of those interviewed has an emotional content, though it is something hard to measure or estimate.

While these interviews took place over a two-day period during the Christmas holiday recess, I visited the village several times when the wood-gathering was taking place to make family interviews and received considerable incidental material about wood-gathering which seemed to be on everybody's mind. Group X was selected by chance. Since the groups were all equal in size there was no reason to choose any one more than another for the study of the group per se. (See Sociogram I.)

An analysis of Sociogram I, which is based on the first three choices of each man, shows us how weak is the leadership of the two men appointed by the Obshtina--namely, numbers 4 and 7. At no time do they come out as important leaders but this may be due to conflict situations which arose between them and group members during the course of the wood-gathering. The predominant choice is 13, a hard-working retired railroad man, who is close-mouthed and has the reputation of "minding his own business." He was mentioned 15 times: 6 firsts, 6 seconds, and 3 thirds. This sociogram shows that when the Mayor appointed the leaders he did not consider the same qualities which the peasants themselves thought essential. He appointed men who



SOCIOGRAM I  
Woodcutting Group, Dragalevtsy, Bulgaria  
34 men--first three choices

## WORK-SHEET FOR SOCIOGRAM I

Individual Number	Chose	First	Second	Third
1	-	29	19	24
2	-	4	34	22
3	-	13	16	5
4	-	22	13	15
5	-	13	15	29
6	-	16	15	13
7	-	4	21	20
8	Did not go. Sent Number 4 instead			
9	-	16	12	10
10	-	25	13	12
11	-	12	37	28
12	-	10	28	16
13	-	20	22	26
14	-	13	10	29
15	-	16	6	22
16	-	15	13	17
17	-	18	20	21
18	-	11	13	5
19	Did not go.			
20	-	13	16	28
21	-	24	20	13
22	-	28	16	13
23	-	29	22	5
24	-	13	20	21
25	-	7	15	3
26	Did not go. His brother, 33, went instead			
27	-	28	33	25
28	-	25	10	22
29	-	18	17	21
30 and 31 did not go				
32	-	29	13	1
33	-	27	13	3
34	-	outsider	10	19
35	Did not go. No. 3 went for him			
36	-	1	30	19
37	-	21	22	4

had been former political figures on the assumption that they could also lead capably in the task of woodcutting.

The other leader individuals besides 13 are 10, 15, 16, 20, 21, 22, 28. An interesting concentration of leadership is shown by the reciprocal bonds existing between some of these eight leader individuals: namely, 15-16, 13-20, 13-22, 22-28. (Notice again the strong position of 13.) The leaders also have the following reciprocal bonds with non-leader individuals: 10-12, 15-6, 21-24. That is to say, every leader individual has at least one reciprocal bond, while three of them have two reciprocal bonds--the majority of these being with other leader individuals. Furthermore, there is only one other reciprocal bond in the whole group in which a leader does not figure--namely, 27-33.

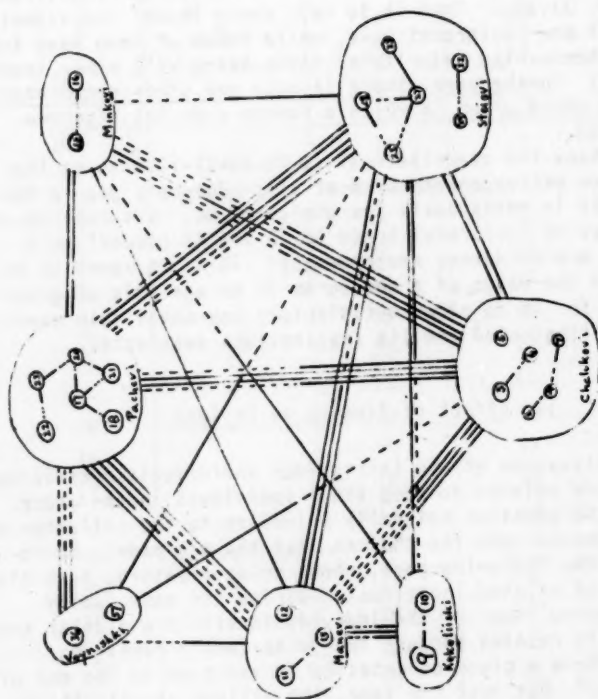
Perhaps the quadrilateral 13-20-28-22-13 sums up the concentration of leadership best of all. The only gap is the failure of 28 to reciprocate the choice of 20. But both 28 and 20 are joined by reciprocal bonds to 22 and 13 respectively, who in turn are connected reciprocally. This, it seems to me, demonstrates the value of a sociogram in an analysis of group leadership, for in no other satisfactory way could this quadrilateral be illustrated and its implications manifested.

#### iv. Effect of Kinship on Choices

Twenty-seven of the thirty-four individuals comprising this group are related to some other individual in the group. Therefore, the question naturally arises as to the influence of such relationship upon the choices that the men made. Sociogram II, on the following page, shows seven clusters, each cluster made up of related individuals bearing the same family name. Of course, some of the individuals within a cluster are only distantly related because the joint-family names in Dragalevtsy have a place connotation in addition to the one of relationship.<sup>4</sup> But just the same, the village usually thinks of the Pachevi or the Chalukovi as a definite group in the community bound together by kinship as well as geographical proximity. The sociogram also shows the choices made by each individual for other individuals in the same cluster. A few in-law relationships are not shown in this sociogram, but an examination of the data showed them to be relatively unimportant in

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4. For further information along this line see "Neighborhoods and Neighborly Relations in a Bulgarian Village," an article by me in *SOCIAL FORCES*, May, 1939.



SOCIOGRAM II  
Effect of Kinship on Choices

Each cluster is made up of related individuals bearing the same family name. Lines between clusters show the number of times members of one cluster mentioned those in another cluster (first three choices).



this woodcutting group.<sup>5</sup>

I was interested in my analysis of the group to see what effect a feeling of insecurity on the part of an individual might have upon his choice of a relative. The best measure of this feeling of insecurity seemed to be the failure to receive favorable votes. It does seem significant that every individual<sup>6</sup> shown on Sociogram II who received only one or else no favorable votes from the group at large selected some relative, with whom he naturally felt on more intimate terms. When an individual received as many as two votes from the group at large, then the chances were about fifty per cent that he would name a relative among his first three choices. Of course, the unwanted individual does not know definitely the opinion, expressed on the questionnaire, which the general public has for him, but in a face-to-face society like Dragalevtsy every individual has a rather clear picture of his social status. This was illustrated forcibly when 23, who received the largest number of negative votes, refused to name any individuals which he would reject from a woodcutting group of his own formation. He cooperated in naming those he would like (2 of the first 3 being relatives), but lacked the hypocrisy necessary to name any others as being undesirable; he knew where he stood in the opinion of the community.

Not only was I interested in the position of the person choosing relatives but also in the position of the relatives chosen. I wondered, for instance, if relatives out of kindness or a sense of loyalty would list some kinsman whom the group at large might reject. This did not prove to be the case because only one person named by a kinsman was not listed by someone outside the kinship group. That is, individuals who chose relatives chose those upon whom the group at large likewise placed approval.

Sociogram II likewise shows us the status of the differing kinship clusters as far as the woodcutting activity is concerned. The Pachevi, Stoiovi and Chalukovi, each consisting of six members, are comparable in size but received 16, 9 and 6 votes respectively. The other clusters, made up of two or three members, are similarly comparable but vary considerably: Voynishki--1; Kokolliski--3; Minkovi--10; Manevi--15. The size

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5. The svatovshtenie, or in-law relationship, is very important in Bulgarian villages--so much so that two brothers cannot marry two sisters, since the second brother by marrying a sister-in-law would be marrying a relative, something taboo.
  6. The Voynishki (Numbers 36 and 37) are exceptions here but since they are not on speaking terms one would not expect them to choose each other.

of the cluster has little to do with the number of votes received; it is rather the popularity of certain individuals within the cluster which determines the voting.

My conclusions regarding the effect of kinship as far as this one group is concerned are: 1) the choices of unwanted individuals included a relative with whom they felt some security; 2) the persons chosen were usually those upon whom the group as a whole set its stamp of approval; and 3) family clusters can be said to have a status in the same sense that individuals do, and are rejected or mentioned favorably through the medium of the individuals comprising those clusters.

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## SOCIAL STRUCTURE REVEALED IN A SOCIOMETRIC RETEST

by  
Joan Criswell

In sociometric work it is important to discover the survival value of group structures in the midst of change of choice over a period of time. Some evidence on this point was obtained during an investigation into the growth of race cleavage in the classroom (1).

The subjects were pupils of a New York public school of mixed race, the Negro membership amounting to about 75 per cent. To these children the sociometric test was applied early in May, 1936. Each child was permitted to choose two classmates beside whom he would like to sit. In an individual interview he gave the reasons for his choices. Seating changes were then made on the basis of this material. Six weeks after the first test, after the completion of most of the interviews and before the reseating took place, there was an opportunity to retest eight classes. The examiner explained to the children that they would be allowed to choose again so that they might be sure to receive the neighbor they desired. The subjects were interested and appeared as cooperative as on the first test.

The classes tested consisted of one from each of the eight grades. Six were classed by the school as dull scholastically, while two were average. The groups comprised 238 subjects who made 460 choices on the first test and 455 on the second.

There was considerable change in choice in the six-week interval. Of 216 children making two choices on both occasions, only 38 per cent retained both choices unchanged. Forty-two per cent changed either first or second choice, and 20 per cent changed both choices. Of the total number of choices, (460), 41 per cent were changed. Usually a change consisted of shifting from one child to another, but on rare occasions the original choice was simply omitted on the second test.

First choices were more resistant to change (Table 1). Thirty-one per cent of first choices failed to survive the six-weeks interval, i.e., did not appear as first or as second choice on the retest. The change in second choices was 51 per cent.

Choices which were reciprocated by the person chosen also showed relatively high stability. Reciprocated first

choices were the most stable of all. They were changed in 20 per cent of the cases, the corresponding figure for second choices being 40 per cent (Table I).

Table I

PER CENT OF CHOICES CHANGED AFTER A SIX-WEEKS INTERVAL  
GRADES ONE THROUGH EIGHT

Type of Choice	N	Per Cent Changed
First Choice	236	31
Second Choice	224	51
Reciprocated First Choice	123	20
Reciprocated Second Choice	60	40
Total Choices	460	41

The effect of age on change of choice was tested on the 216 children who made two choices on both tests. For age at the time of the retest correlated with the number of choices changed, the product-moment  $r = -.33 \pm .04$ . This coefficient reveals only a slight tendency for choice to change more in younger individuals.

The effect of intelligence was determined on 89 subjects in grades 6 through 8. For these pupils intelligence quotients were obtained from group tests given by the school. The intelligence quotients ranged from 60 to 138 with a mean of 92. For intelligence and number of choices changed, the  $r = -.17 \pm .07$ . Thus dull individuals were not significantly more changeable than brighter pupils.

Some of the subjects who were not interviewed<sup>1</sup> until after the retest were questioned as to their reasons for change of choice. Grades involved were one, two, six, seven and eight. Of the 85 subjects questioned regarding change, 26 were in grades one and two and 59 were in the older classes. The results are presented in Table II.

Very frequently the subject was unable to give a reason for his change. This condition was particularly prevalent among the younger children, although the difference between the two

1. It should be noted that this report is derived from a larger investigation in which the interviewing after the first test had been practically completed within five weeks. (1, p. 17.)

age groups was not completely reliable ( $\frac{D}{\sigma \text{ diff.}} = 1.94$ ). In 70 per cent of the cases where no reason could be given the chooser asserted that he liked the person previously chosen as well as ever and found him as good a friend as the new choice. In the other cases he expressed liking for the old choice but preferred the new.

Table II

## PERCENTAGE FREQUENCY OF REASONS FOR CHANGE OF CHOICE

Type of Response	Grade	
	1-2	6-8
No reason	58%	38%
"Bad in school"	27%	28%
Miscellaneous reasons	15%	34%
Total no. choices	33	73

The most popular reason for change of choice was that the person previously chosen had become "bad" in school. The chooser would complain that his companion now fought too much, talked in class, or annoyed him by asking for answers, etc.

Only a few children claimed that they had chosen too hurriedly the first time but now had put down their real friends. One boy stated that he had chosen a certain girl "for a joke" but then admitted that she had really been his "girl friend." Other reasons given infrequently included such answers as: "My sister had a falling out with her and we now don't speak," "We're still friends but I don't see so much of her--she's been out a week," "Sometimes she doesn't like me," "I had a fight with her," "She's not smart," "She said she didn't want to sit by me," "He got to be a monitor and puts my name down," "Don't get along so well any more." No choices were shifted on race or nationality grounds. But one was shifted on sex grounds, a child saying that he had changed his choice from a girl to a boy because girls fought with him.

Change of choice is thus largely either a re-shuffling of individuals on about the same preference level of the social atom or a rejection due to annoying behavior which has developed during class work. The reasons given for change of choice are similar to those given for rejection of unchosen classmates, since in both cases school behavior is heavily emphasized (1, p. 64). In only a few cases do individuals explain a change of

choice definitely in terms of loss of friendship, for example, "We don't speak any more." This contrasts with the motivations given for the original choices. These were cast mainly in terms of friendship, e.g. "He's my friend," "We play together," "We've known each other a long time." (1, pp. 48-62) Apparently in the selection of an individual the positive friendly aspects of the relationship stand out to the chooser, while in rejection the negative factor of school annoyance becomes more prominent.

In view of the change in choice over a six-weeks interval it might be expected that fundamental social patterns would suffer a corresponding change. There was, however, slight alteration in class structure.

Each class was characterized on both occasions by a four-way cleavage consisting of a deep gulf between the sexes and a shallower division between the race groups. Sex and race cleavage increased with age as before.

Table III summarizes the results for the group as a whole.

Table III

## CHANGE IN STRUCTURES OVER A SIX WEEKS INTERVAL

Type of Structure	Percentage Frequency	
	Test 1	Test 2
Unchosen children	26	28
Reciprocated choices	40	41
Intersexual choice:		
Girls: Boys	8	5
Boys: Girls	10	9
Interracial choice:		
Colored girls: white girls	13	15
White girls: colored girls	44	40
Colored boys: white boys	10	8
White boys: colored boys	44	44

\*The figures for interracial and intersexual choice take into account merely frequency of choice for the purpose of comparing Test 1 and Test 2. They do not directly express race or sex preference, since in measuring preference it is necessary to allow for the amount of inter-group choice to be expected by change. This problem is discussed in a larger study (1, p. 19), and is not under consideration in this report.



For these figures only the children present at both administrations of the test are used. The amount of interracial choice made on Test 1 was compared directly with that on Test 2, without reference to chance expectation, since the make-up of each class was practically unchanged and therefore chance expectation was approximately the same. This was likewise true of intersexual choice. For interracial choice, only intra-sexual choices were considered since sex cleavage was so great that each sex group formed a relatively independent unit. Secondly, this is advisable because race preference may be influenced by the sex of the person chosen.

We find that there is during the interval a small decrease of intersexual choice and an increasing popularity of white girls with both races. Slight increase occurs in both isolates (unchosen children) and in reciprocation of choice. But all these differences are highly unreliable. The values for  $\frac{D}{\sigma \text{ diff.}}$  ranged between .26 and 1.29.

The constancy of choice is not due to the fact that a given individual always retained his choice within the same race or sex group while shifting it from one to another individual. Of the changed choices, 81 per cent were directed into the same sex group as before, 19 per cent into the opposite sex group. Of the changed interracial choices, 81 per cent were directed by colored children into the same race group as before, while 49 per cent were directed into the same race group by white children, and respectively 19 per cent and 51 per cent were otherwise directed.

Six weeks is evidently too short an interval to show any increase of race or sex cleavage due to age. Also, during this time, there was apparently no new influence which could significantly change the course of choice. One such possible influence was the first administration of the test itself. It was known that after the test there was some discussion of choices among the children and some subjects certainly learned who had or had not chosen them. This knowledge might have influenced later choices. Pupils who had made intersexual choices might have been teased on this account and later wished to withdraw these selections. Some children might have discovered that their choices were unreciprocated and thus sought to form mutual pairs with those who had chosen them. That this occurred occasionally was shown by such comments as "He said he didn't want to sit by me," or "I just chose a girl for fun." Apparently, however, this influence was too small to affect the choices as a whole. What was found was a fluctuation of choice, one change compensating for another.

The sociometric patterns consequently appear to behave in a stable manner, showing immunity to change in the component

choices. The position and function of the parts tends to remain the same, though the particular individual occupying a given locus may be different at different times.

This result is in agreement with the findings of Jennings who tested a Training School population of girls on seventeen occasions at eight-week intervals. She found that in spite of shifting choices which turned up different leaders and different isolates, the per cent of these individuals in the whole group remained relatively constant (3, p. 122). Moreno also reports briefly that there was no fundamental change in structure in a public school after a seven-week interval (3, pp. 26-27).

The present results confirm previous findings in regard to mutual pairs, isolates, and sex cleavage, and add new evidence on the amount of change of choice and on the constancy of race cleavage. In the public school tested, the Negro majority of 75 per cent and the white minority of 25 per cent had apparently reached a limiting point in their adjustment to each other. Therefore, when interracial choices were withdrawn by either race group, similar choices replaced them so that there was in the area of interracial contact an exchange of choices without alteration of cleavage. Thus an equilibrium of interracial relationships had been established.

#### Summary and Conclusions

1. Eight classes in a New York public school with a membership 75 per cent Negro were given the sociometric test twice. The tests were administered six weeks apart. A seating criterion was used.

2. There was considerable change in choice, the greatest change occurring in unreciprocated second choices and the least appearing in reciprocated first choices. This change in choice had little relation to age or intelligence.

3. Reasons for change of choice showed that the change was frequently a shifting of individuals on nearly the same preference level of the social atom. Other changes were traced by the chooser to bad class conduct developed by the person first chosen.

4. In spite of fluctuation of choice, basic group structures remained the same. There was no alteration in the per cent of isolated individuals or in reciprocated choices. Sex and race cleavage also remained the same. In relation to each other the two race groups seemed to have reached a point of equilibrium.

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SURVEY OF SOCIOMETRIC TECHNIQUES,  
with an annotated bibliography

by  
J. G. Franz

The sociometric method is of comparatively recent origin. Literature upon the subject has been presented from time to time by its originator, Moreno, together with an enlarging group of interested persons from different fields. At no time have the techniques been brought together under one head. Our paper is only a survey, but we hope it will prepare the ground for a more thorough integration of this new approach to the science of human relations.

Sociometry is a method used for the discovery and manipulation of social configurations by measuring the attractions and repulsions between individuals in a group. Essential techniques in this method are: The sociometric test, the spontaneity test, the sociogram, sociometric assignment, and spontaneity training. Each of these techniques will be described briefly upon the basis of published material. An annotated bibliography will enumerate the various researches which have been completed and will indicate what each specific research project has accomplished in the way of using and applying sociometric techniques.

A. THE SOCIOMETRIC TEST

The sociometric test requires that each individual choose or reject his associates upon the basis of a specific criterion determined by the nature of the group being tested. The choices are made upon preference levels--first choice, second choice, third choice, etc. Sociometric data for the analysis of groups and communities have been obtained by tests using

1. These techniques have been presented in detail by J. L. Moreno in Who Shall Survive? A New Approach to the Problem of Human Interrelations, Nervous and Mental Disease Publishing Company, Washington, D.C., 1934. Extension and improvement of these techniques is discussed in various articles appearing in Sociometric Review and Sociometry, A Journal of Inter-Personal Relations. (See bibliography.)

the following criteria: (1) With whom would you like to live in the same house? (2) With whom would you like to work? (3) With whom would you like to sit at the same table? (4) With whom do you wish to sit in the classroom? (5) Who are your best friends in the village? (6) Whom do you wish to have as neighbor in a new community? (7) With whom would you like to work on the same committee? (8) With which families in the community do you have visiting relations? Exchange work? Borrow tools?<sup>2</sup> Other criteria for the test, variations of the eight just mentioned, have or can be used.

In order to obtain the actual and wished relationships of the subject, the sociometric test is constructed in such a way as to be meaningful to the subject. The assumption is that an individual will reveal his relationships with other individuals to a maximum when assured of consequences to his answers. The condition of meaningfulness is obtained when the results of the test are or can be put into immediate operation.<sup>3</sup> The

2. Numbers 1, 2, and 3 were used extensively at the New York Training School for Girls at Hudson, New York, by Moreno and Jennings over a period of years. Number 4 was used by the same two authors and more recently by Joan Henning Criswell in a study of racial cleavages in classrooms. Number 5 was used by Lundberg and Steele in studies of patterns in a New England village. Number 6 was used by Shepard Wolman in the selection of homesteaders for a new resettlement community. Number 7 was used by Alvin Johnson in testing subgroup structures in a boys' camp. Number 8 has been widely used by Loomis and Davidson in the study of resettlement communities throughout the United States. (See bibliography for further references.)

Tests number 5 and 8 are good examples of research tests. Application of the results of these tests is impossible. The research test is distinguished by Moreno from the operational test in which there is either actual or potential realization of a choice. (See bibliography.)

3. The nature of the test, as Moreno describes it, is to be in itself "a motive, an incentive, a purpose, primarily for the subject instead of for the tester." From the subject's viewpoint the test, when it involves or promises realization of a need, is not a test but a value. In the attainment of this value or life-goal the subject is motivated to release an immense fund of valid information about group formations, intersexual likings, and race cleavages. Who Shall Survive? pp. 14, 15.

"The experimental procedure (sociometric) is so constructed that it is able to become the life pattern itself, the one in which the individuals are..... The experimental setting has become a social institution." Sociometry, Vol. I, p. 344.

technique by which this is done will be discussed in another section of this paper.

The sociometric test, in some instances, is followed by an interview during which the subject is asked to give an explanation of his particular choices. The interview gives the tester a check upon the accuracy of the choices and also a clearer picture of the pattern of attractions and repulsions in the group. It is especially valuable in cases where assignment (to be discussed later) is the main problem.

### B. SPONTANEITY TEST

This is a procedure for a deeper exploration of a subject's attraction-repulsion pattern as revealed by the sociometric test. The subject is thrown into what Moreno calls a "standard life situation" in which he improvises freely while acting opposite members of the group to whom he is related--as revealed by the sociometric test--either through attraction or rejection. The situations may express "anger, fear, sympathy, or dominance."<sup>4</sup> The emotion selected by the subject (or the emotion selected by a person acting opposite the subject), the words spoken during the act, and the duration of the act give additional insight into inter-personal relationships which the sociometric test cannot reveal. The spontaneity test can, therefore, be considered an intensification of the sociometric test. The subject in the sociometric test is spontaneous in anticipation or in visualization of a future or possible relationship with another person. The subject in the spontaneity test is spontaneous in the momentary realization of a relationship with another person in a situation constructed in such a manner as to resemble real life. The training value of this test will be indicated in the last section of this paper.

### C. THE SOCIOGRAM

The organization of a group tested sociometrically is made visible by charting the attractions and repulsions upon what is known as a sociogram. The procedure is to represent each individual in the group by a symbol and then draw lines indicating the relations, positive, negative, or indifferent, of each individual to other individuals. A picture of the group and of each individual in the group is thus obtained in one single operation. Sociograms have been made of school

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4. Who Shall Survive? p. 177.



groups, work groups, home groups, whole communities, and groups within a community. Examples of sociograms are the ones made upon the basis of the data collected by the use of the tests mentioned in the first section of this paper.

Each sociogram reveals a variety of typical structures. Those individuals forming the attraction-repulsion pattern around a subject constitutes his social atom. The interlocking of a number of social atoms constitutes a network.<sup>5</sup> The feeling projected within the social atom and through the network or networks is called tele. Other formations are pairs, triangles, isolates, stars, and chains.

The social atom is a part of a larger structure--the acquaintance volume. This is determined by the acquaintance test in which each subject is asked to indicate the number of persons with whom he is familiar but who are not chosen for any specific criterion, such as working or living in proximity.<sup>6</sup> In reference to networks, Moreno states that the discovery of networks in a group solely by means of the sociogram proves its value as a tool of research. Tabulation of the results of the sociometric test cannot reveal all the configurations revealed by the sociogram.<sup>7</sup> The existence of a tele structure is proved by the statistical treatment of social configurations as developed by Moreno and Jennings.<sup>8</sup> This was done by comparing sociometric findings with a common reference base ascertained by chance calculation of choices.

Among the smaller structures in the sociogram a pair is either a mutual attraction or a mutual rejection. A triangle is formed when three individuals are attracted or repulsed by each other. When this occurs in a square, the structure may be a closed structure in the case of three available choices. An isolate is not chosen by other members of the group. A star has many attractions. A chain constitutes a number of individuals

5. "Whereas certain parts of these social atoms seem to remain buried between the individuals participating, certain parts link themselves with parts of other social atoms and these with parts of other social atoms again, forming complex chains of interrelations which are called, in terms of descriptive sociometry, psychological networks." Sociometry, A Journal of Inter-Personal Relations, Vol. 1, Nos. 1 and 2, p. 213.

6. See Who Shall Survive? pp. 137-141 and Sociometric Review, p. 11.

7. See "Statistics of Configurations" in Sociometry, A Journal of Inter-Personal Relations, Vol. 1, Nos. 3 and 4, pp. 356-359.

8. Ibid., pp. 358, 359.

technique by which this is done will be discussed in another section of this paper.

The sociometric test, in some instances, is followed by an interview during which the subject is asked to give an explanation of his particular choices. The interview gives the tester a check upon the accuracy of the choices and also a clearer picture of the pattern of attractions and repulsions in the group. It is especially valuable in cases where assignment (to be discussed later) is the main problem.

#### B. SPONTANEITY TEST

This is a procedure for a deeper exploration of a subject's attraction-repulsion pattern as revealed by the sociometric test. The subject is thrown into what Moreno calls a "standard life situation" in which he improvises freely while acting opposite members of the group to whom he is related--as revealed by the sociometric test--either through attraction or rejection. The situations may express "anger, fear, sympathy, or dominance." The emotion selected by the subject (or the emotion selected by a person acting opposite the subject), the words spoken during the act, and the duration of the act give additional insight into inter-personal relationships which the sociometric test cannot reveal. The spontaneity test can, therefore, be considered an intensification of the sociometric test. The subject in the sociometric test is spontaneous in anticipation or in visualization of a future or possible relationship with another person. The subject in the spontaneity test is spontaneous in the momentary realization of a relationship with another person in a situation constructed in such a manner as to resemble real life. The training value of this test will be indicated in the last section of this paper.

#### C. THE SOCIOGRAM

The organization of a group tested sociometrically is made visible by charting the attractions and repulsions upon what is known as a sociogram. The procedure is to represent each individual in the group by a symbol and then draw lines indicating the relations, positive, negative, or indifferent, of each individual to other individuals. A picture of the group and of each individual in the group is thus obtained in one single operation. Sociograms have been made of school

groups, work groups, home groups, whole communities, and groups within a community. Examples of sociograms are the ones made upon the basis of the data collected by the use of the tests mentioned in the first section of this paper.

Each sociogram reveals a variety of typical structures. Those individuals forming the attraction-repulsion pattern around a subject constitutes his social atom. The interlocking of a number of social atoms constitutes a network.<sup>5</sup> The feeling projected within the social atom and through the network or networks is called tele. Other formations are pairs, triangles, isolates, stars, and chains.

The social atom is a part of a larger structure--the acquaintance volume. This is determined by the acquaintance test in which each subject is asked to indicate the number of persons with whom he is familiar but who are not chosen for any specific criterion, such as working or living in proximity.<sup>6</sup> In reference to networks, Moreno states that the discovery of networks in a group solely by means of the sociogram proves its value as a tool of research. Tabulation of the results of the sociometric test cannot reveal all the configurations revealed by the sociogram.<sup>7</sup> The existence of a tele structure is proved by the statistical treatment of social configurations as developed by Moreno and Jennings.<sup>8</sup> This was done by comparing sociometric findings with a common reference base ascertained by chance calculation of choices.

Among the smaller structures in the sociogram a pair is either a mutual attraction or a mutual rejection. A triangle is formed when three individuals are attracted or repulsed by each other. When this occurs in a square, the structure may be a closed structure in the case of three available choices. An isolate is not chosen by other members of the group. A star has many attractions. A chain constitutes a number of individuals

5. "Whereas certain parts of these social atoms seem to remain buried between the individuals participating, certain parts link themselves with parts of other social atoms and these with parts of other social atoms again, forming complex chains of interrelations which are called, in terms of descriptive sociometry, psychological networks." Sociometry, A Journal of Inter-Personal Relations, Vol. 1, Nos. 1 and 2, p. 213.
6. See Who Shall Survive? pp. 137-141 and Sociometric Review, p. 11.
7. See "Statistics of Configurations" in Sociometry, A Journal of Inter-Personal Relations, Vol. 1, Nos. 3 and 4, pp. 356-359.
8. Ibid., pp. 358, 359.

through whom negative or positive tele flows.

In cases where the sociogram of a whole community is divided into separate sociograms indicating the structure of groups within the community (psychological networks), sociometric classification of each individual is possible. This consists of tabulating the number of choices an individual receives and gives within the group and the number of choices an individual sends out of the group and the number coming in.

The sociogram, as a research technique, is used in the following manner: A primary<sup>9</sup> sociogram shows the position of every individual in a community. When the psychological currents in a community are mapped in respect to locality, the result is a psychological geography.<sup>10</sup> The primary map or sociogram may be broken down into secondary maps or sociograms showing the various structures, until we get down to the social atom, which is the smallest constellation of psychological relations in the sociogram.

The sociogram gives a picture of the organization and evolution of a group, at the same time not losing sight of the position of each individual in the group. Its value for directing therapy will become evident in the next section of this paper.

#### D. SOCIOMETRIC ASSIGNMENT

The results of the sociometric and spontaneity tests charted in the form of a sociogram reveal an uneven or inadequate flow of tele from one individual to another. The social atoms reveal imbalances. Some individuals are left stranded in the group. Their actual relationships may not be the ones they wish to have. Chains or networks of a detrimental nature may hinder the group process.

Group therapy is a technique which seeks to adjust the individual to the group. Sociometric assignment seeks first of all to give the individual the most favorable position for adjustment--and at the same time keeping the group in mind, or, more accurately, the positions of all other individuals.

Assignment has, until now, been made to work groups,

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9. For a discussion of types of sociograms we refer the reader to the material outlined in the bibliography.
  10. Psychological mapping of whole communities has been undertaken by Moreno and Jennings at Hudson, and by Wolman and Loomis in resettlement communities.

school groups, dining tables, families,<sup>11</sup> and neighbors. Ordinarily, the procedure is to satisfy as many choices as possible. It is to be expected that an administrator using the technique in his group would attempt to integrate isolated individuals by permitting them to associate with as many chosen individuals as possible. Assignment and re-assignment would also be used to break up harmful formations in the group as revealed by the sociogram.<sup>12</sup>

### E. SPONTANEITY TRAINING

This technique works hand in hand with the assignment technique.<sup>11</sup> It seeks to train the personality toward fuller expression and participation in the group. In a way, the technique is an extension and application of the spontaneity test. The two combined are known as the psychodrama.<sup>13</sup> In the spontaneity test, the subject acts in a social situation under ideal conditions. Resistances have disappeared. By a first successful experience the way is paved for overcoming resistances when they occur later in real life experience. Spontaneity training consciously creates, first of all, simple situations and then graduates them toward greater complexity by the interpolation of resistances until the therapeutic situation is similar to the life situation. The subject is not only trained to meet difficult situations in the group but is also trained to meet future life situations and social roles. The assignment

11. Two tests, the parent test and the family test, were used by Moreno at Hudson. In these tests the girls, at the time of admission, were asked to meet all the housemothers who had vacancies in their cottages and select the one with whom they wished to live. The housemother, in turn, made her selection. Assignment was made upon the basis of mutuality of choice. In the family test a girl representing each cottage with a vacancy met the new girls and the same process was repeated. Who Shall Survive? pp. 273-295.
12. Loomis shows how the sociometric technique reveals the "grapevine" in a new settlement and how its control can help integrate the new community. See bibliography.
13. It is impossible to give a description of the psychodrama in this paper. In a future paper we hope to present a survey of psychodramatic techniques. The reader is referred to "Inter-Personal Therapy and the Psychopathology of Inter-Personal Relations" by J. L. Moreno, in Sociometry, Vol. 1, Nos. 1 and 2, July-October, 1937, for a discussion of this form of treatment of inter-personal problems.



process is projected into the future.<sup>14</sup>

### SUMMARY

The sociometric test is based upon a criterion which is identical with a group function. In the spontaneity test subjects are required to choose their associates in face-to-face situations. The results of these tests are charted in the form of a sociogram which reveals the constellations of the group and the position of each individual in relation to every other individual. Assignment is made upon the basis of the attraction-repulsion pattern as established by the sociogram. Adjustment to social roles and future roles is obtained through spontaneity training, thus strengthening the assignment pattern.

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14. The psychodrama has recently been used in conjunction with sociometric testing at The Westfield State Farms, Reformatory Division, Bedford, New York and at Cedar Knolls School, Hawthorne, New York. Miss Kathleen Roberts administered the tests at Bedford. The psychodrama was under the direction of Bruno Solby, M.D. (Sociometry, REPORTS, Vol. II, Nos. 1 and 2.) The work at the Hawthorne School is under the direction of Miss Ruth Borden.



## CONCEPTS AND TOOLS IN THE SOCIOMETRIC METHOD

Exploratory	Descriptive	Dynamic	Therapeutic
Sociometric test	Pairs, triangles, isolates	Tele	Warning up <sup>4</sup> process
Acquaintance test	Social atom	Aristo-tele <sup>1</sup>	Auxiliary <sup>5</sup> ego Assignment
Population test	Psychological networks	Emotional expansive- ness	
Spontaneity test	Psychological geography	Sociodynamic <sup>3</sup> effect	Spontaneity <sup>6</sup> training
Sociogram	Sociogram		
Quantitative analysis of choices			
Statistical analy- sis of configu- ration			

1. An effect produced by a comparatively unknown person upon masses of people through the medium of a few individuals.
2. The number of individuals in a person's acquaintance volume with whom relationships are actualized, i.e., those individuals with whom one particular individual is able to establish emotional contact.
3. When the range of choices in a sociometric test is increased, those individuals who are already among the most chosen (stars) receive a progressive majority of the additional choices, while isolated individuals remain in their unchosen positions.
4. The effort made by an individual through the use of physical or mental starters to reach a spontaneous state. In a broader usage it is a process which may continue throughout the whole configuration of starters, acts, pauses, and interpolation of resistances through which a subject may go, once he has started to shape a performance on the spur of the moment.
5. In the spontaneity training process, a person who identifies himself with another person as far as organic limitations permit. Another term used is therapeutic agent.
6. For more detailed definition of the terms in this table see Who Shall Survive and Sociometry, Vol. 1, Nos. 1 and 2.

## ANNOTATED BIBLIOGRAPHY

1. Moreno, J. L., in collaboration with E. Stagg Whitin, Application of the Group Method to Classification, National Committee on Prisons and Prison Labor, New York City, 1932, 104 pages.

The objective of this book, the first to present the sociometric technique in this country, is to "transform the promiscuous, unorganized prison system into a socialized community through a method of assignment of prisoners to social groups." (page 7) Forty-seven inmates of Sing Sing Prison were charted and seven men selected for assignment to a hypothetical group. The assignment was made upon the basis of such factors as mental type, sexual characteristics, social kinship, racial traits, actual observation of behavior in the prison, and former record. (pages 33, 8) The assignment technique is recommended for use in prisons and prison communities. The addenda contains an article on the "analysis of spontaneous grouping within school classes" by J. L. Moreno in collaboration with Helen H. Jennings and Richard Stockton.

2. \_\_\_\_\_, Who Shall Survive? A New Approach to the Problem of Human Interrelations, Nervous and Mental Disease Publishing Company, Washington, D.C., 437 pages.

Besides a detailed description and discussion of the techniques mentioned in this paper, the book contains information about "tests of emotional expansiveness" (pages 136-137), technique for determination of networks (page 256ff.), and a population test for the guidance of migration and the planning of new communities (pages 340-360). This book is basic for the understanding of all the techniques mentioned in this survey.

The following contain reviews of Who Shall Survive?: The Journal of Social Psychology, August, 1935, by Gardner Murphy; The Psychoanalytic Review, April, 1935, by Winifred Richmond; The American Sociological Review, August, 1937, by George A. Lundberg.

3. \_\_\_\_\_, "Organization of the Social Atom," Sociometric Review, New York State Training School for Girls, Hudson, New York, 1936.

The social atom is defined as the nucleus of emotionally related individuals as distinguished from the "acquaintance volume," or those individuals who do not necessarily enter into relationship in respect to some criterion such as working together, eating together, or living in proximity. In order to determine the exact size of the social atom,

subjects were asked to choose upon the basis of a criterion as many persons as they wished and also those persons to whom they were equally attracted. The results showed levels of preference but often several individuals at the same level of preference. The article contains a discussion of preferences for things as related to preferences for persons.

4. \_\_\_\_\_, and Jennings, Helen, "Spontaneity Training," Sociometric Review, New York Training School for Girls, Hudson, New York, 1936.

This article contains a definition and explanation of Spontaneity Training. A girl in training for salesmanship is given as an example. The girl was given simple, easy situations and then resistances were interpolated until the typical department store scene was duplicated. The treatment of inter-personal problems is indicated: "The treatment begins with the simplest inter-personal assignments, assignments to individuals who are definitely neutral or else sympathetic to the subject. Then gradually we bring them face to face with the individuals with whom they have difficult relations." (page 24)

5. \_\_\_\_\_, "A Plan for the Regrouping of Communities," Sociometric Review, New York State Training School for Girls, Hudson, New York, 1936.

This is a description of a proposed resettlement of families from three communities. Three primary maps and three leader maps were made of the three communities. The leaders from all three communities met in a test situation similar to the spontaneity tests for family arrangement in Hudson. The sociometric test was made upon the basis of families choosing each other for neighbors. With this procedure, five hundred families out of seven hundred and fifty applicants were selected sociometrically for the new community.

6. Jennings, Helen, "Control Study of Sociometric Assignment," Sociometric Review, New York State Training School for Girls, Hudson, New York, 1936.

A group of 16 girls coming to the Hudson School did not take the regular parent test and family test. This group is compared with two other groups, one superior and the other inferior in adjustment, who had gone through the regular sociometric process. The unassigned group did not adjust as well as the two groups who were assigned at the time of admittance. The study reveals that "hit-or-miss assignment appears to facilitate social blocking and often firmly establishes an isolated person." (page 57)

7. Richmond, Winifred, "Sociometric Tests in a Training School for Nurses," Sociometric Review, New York State Training School for Girls, Hudson, New York, 1936.

A sociometric test involving such criteria as living in the same room, working together, and male friends desired. An acquaintance test was given. No assignment was made. The sociometric test confirmed the intensive psychological testing of the individual girls which had preceded it.

8. Moreno, J. L., and Jennings, Helen, "Advances in Sociometric Technique," Sociometric Review, New York State Training School for Girls, Hudson, New York, 1936.

An analysis of choices for sitting at the dining table. Discussion of optimum placement, technique of placement by which more than 80 per cent of the choices are satisfied, and control study of a cottage in which placement was not permitted to go into effect. There was a decrease in mutuality of choices in the control group, thus indicating the value of the sociometric test for assignment purposes. The tests were made in collaboration with Mary Martha Gordon and Anna Marie Little.

9. Murphy, Gardner, "The Mind is a Stage," Forum Magazine, May, 1937.

A description of the "Spontaneity Theater" at Beacon, New York. Discussion of treatment of typical problems by the Spontaneity Technique. "Spontaneity" is defined as "adequacy of the person to meet each new situation."

10. Wolman, Shepard, "Sociometric Planning of a New Community," Sociometry, A Journal of Inter-Personal Relations, Vol. 1, Nos. 1 and 2, 1937.

The families applying for membership in a resettlement community were asked to submit a secret ballot indicating, in order of preference, the first, second, and third choices of neighbors in the new community. Sociograms were made upon the basis of the data. They show the different networks or groupings and the leadership structures. A "psycho-geographical" map was made and the settlers actually assigned. After six months a "near-sociometric" retest was given: "The families were asked to assume that they might be able to enjoy a reassignment of houses." (page 229) Diversion of tele from the first popular leaders is noticed in the retest. The author makes suggestions for using the sociometric technique as a method of integrating new communities.

11. Jennings, Helen, "Structure of Leadership--Development and Sphere of Influence," Sociometry, A Journal of Inter-Personal Relations, Vol. 1, Nos. 1 and 2, 1937.

The leadership structure among a population of 493 persons has been traced in its development over a period of two years and seven months. Sociometric tests were given at eight-week intervals. The criterion of the test was "eating at the same table." Three conditions were determined: (1) The criterion of the test must require the choosing on the basis of person-to-person contact; (2) The choices shall be immediately utilized for the subject's benefit; (3) The tests upon the criterion chosen shall be repeatable at intervals without a lessening of value to the subject. (page 100) The dynamics of the leadership structures are revealed in sociograms of the different cottage groups in the community. "Categories of leaders" are indicated.

12. Moreno, J. L., "Sociometry in Relation to Other Social Sciences," Sociometry, A Journal of Inter-Personal Relations, Vol. 1, Nos. 1 and 2, 1937.

Discussion of difficulties involved in studying the structure of human society. The sociogram as a technique by which to record the movements of persons at all age levels. The value of the sociogram in showing how "responses hang together." Definition of social atom, tele, and psychological networks. The role of sociometry among the social sciences.

13. \_\_\_\_\_, and Jennings, Helen, "Statistics of Social Configurations," Sociometry, A Journal of Inter-Personal Relations, Vol. 1, Nos. 3 and 4, 1938.

This article establishes statistical techniques appropriate for sociometric analysis of social configurations. A study of frequency distribution of choices is made. Sociometric deviations calculated from a base of chance manipulation of choices in a group of sixteen imaginary persons confirm the evidence of such structures as tele and networks in the sociogram. The article is highly suggestive.

14. Lundberg, George A., "Social Attraction-Patterns in a Rural Village: A Preliminary Report," Sociometry, A Journal of Inter-Personal Relations, Vol. 1, Nos. 1 and 2, 1937.

\_\_\_\_\_, Steele, Mary, "Social Attraction-Patterns in a Village," Sociometry, A Journal of Inter-Personal Relations, Vol. 1, Nos. 2 and 3, 1938.

The criterion of friendship among the inhabitants is used to determine the "sociography" of a population. A



village of 1000 population was tested. The procedure was for the interviewer to rate each family according to the Chapin scale of socio-economic status, obtain additional information regarding occupation, relationship, church membership, and kinds of reading matter, and then, at the end of the interview to ask the head of the family casually to name his or her best friends in the community. "The aim was to secure the names spontaneously volunteered in response to what appeared to be a casual inquiry at the close of an interview dealing entirely with other matters." (page 375) The sociometric test reveals the friendship groupings, which are compared to the sociological data obtained during the interview. Discussion of theoretical problems.

15. Lewin, Kurt and Lippitt, Ronald, "An Experimental Approach to the Study of Autocracy and Democracy: A Preliminary Note," Sociometry, A Journal of Inter-Personal Relations, Vol. 1, Nos. 3 and 4, 1938.

Two experimental groups of children were selected for the study of autocracy and democracy by using the sociometric test. "The groups were selected....so that the groups would be as nearly equated as possible on the number of potency of friendship and rejection relationships, and on general popularity and leadership characteristics of the members." (page 293)

16. Loomis, Chas. P. and Davidson, Dwight, Jr., "Sociometrics and the Study of New Rural Communities," Sociometry, A Journal of Inter-Personal Relations, Vol. 11, No. 1, 1939.

\_\_\_\_\_, "Measurement of the Dissolution of In-Groups in the Integration of a Rural Resettlement Project," Sociometry, A Journal of Inter-Personal Relations, Vol. 11, No. 2, 1939.

Visiting relationships of inhabitants prior to resettlement are compared with visiting relationships on the projects. Psychological mapping reveals community integration. The sociometric technique has been used in an analysis of 1,500 families in a total of fifteen projects. The research is still in progress.

17. Allen, C. N., and Curtis, K., "A Sociogrammatic Study of Oedipus-Complex Formation: D. H. Lawrence's Sons and Lovers," Sociometry, A Journal of Inter-Personal Relations, Vol. 11, No. 2, 1939.

Presentation on a sociogram of the development and relationship of a number of characters in a novel, supported by quotations from the book.



18. Kephart, N. C., "A Method of Heightening Social Adjustment in an Institutional Group," American Journal of Orthopsychiatry, 1938, 8, 710-718.

\_\_\_\_\_, "Notes on Social Group Structure in an Institution for Retarded Children," Sociometry, A Journal of Inter-Personal Relations, Vol. 11, No. 2, 1939.

The author uses variations of the sociometric technique to set up "self-determining" and "closely knit" groups at the Wayne County Training School, Northville, Michigan.

19. Johnson, Alvin D., "An Attempt at Change in Inter-Personal Relationships," Sociometry, A Journal of Inter-Personal Relations, Vol. 11, No. 3, 1939.

The criterion of choosing with which three boys to work on a committee and with which three not to work on a committee was applied to two groups of fourteen year old boys. In one group a counselor was assigned to an isolated individual and in the other group the group leader was assigned to an isolated member. The isolate in the second group showed greater improvement.

20. \_\_\_\_\_, "Sociometric Testing with Summer Camps," (mimeographed--Brown University, Providence, R.I.).

Instructions for using the sociometric techniques in the management of summer camps.

21. Criswell, Joan Henning, "Sociometric Analysis of Negro-White Groups," Sociometric Review, New York State Training School for Girls, Hudson, New York, 1936.

\_\_\_\_\_, "Racial Cleavage in Negro-White Groups," Sociometry, A Journal of Inter-Personal Relations, Vol. 1, Nos. 1 and 2, 1937.

\_\_\_\_\_, "A Sociometric Study of Race Cleavage in the Classroom," Archives of Psychology, No. 235, New York, January, 1939, 83 pages.

Use of the sociometric test and interview in studying Negro-White cleavages among children. The criterion of the test was "studying in proximity." Choices were put into operation. During the interview, the children were rated for skin-color and the findings later compared with the sociometric results.

Unpublished articles announced in the Official Reports and Proceedings of the American Sociological Review, August, 1939:

Zeleny, Leslie Day, "Identification of Social Isolates," State Teachers College, St. Cloud, Minnesota.

Sanders, Irwin T., "Sociology of a Bulgarian Village," Alabama College, Montevallo, Alabama.

Loomis, Charles P., "Social Relationships and Institutions in Seven New Rural Communities," Bureau of Agricultural Economics, Washington, D.C.

Lundberg, George A., "An Appraisal of the Results of Sociometric Studies on Interpersonal Relationships," Bennington College, Bennington, Vermont.

Location	Time	Author	Type of Research
Mittendorf, Austria	1915-1918	Moreno	Sociometric study of the resettlement of Tryolean peasants
Plymouth Church, Brooklyn, New York	1928	Moreno	Assignment according to preference of roles among children
Mt. Siani Hospital, New York City	1928	Moreno	Group psychotherapy and spontaneity tests
Sing Sing Prison, Ossining, New York	1931-1932	Moreno	Classification of prisoners along sociometric lines
Public School No. 181, Brooklyn, New York	1931-1932	Moreno and Jennings	Sociometric study of the evolution of group distinctions
Riverdale Country School, Riverdale, New York	1932-1933	Stockton	Sociometric study of groups in the school
New York State Training School for Girls, Hudson, New York	1932-1934 1934-1938	Moreno Jennings	Sociometric testing and assignment in a closed community. Spontaneity tests and spontaneity training
Beacon Hill Sanitarium, Beacon, New York	1936	Moreno and others	Sociometric studies among mental patients
St. Elizabeths Hospital, Washington, D.C.	1936	Richmond	Comparison of sociometric test results with psychological tests
Public Schools of Brooklyn and Manhattan, New York	1936-1939	Criswell	Sociometric studies of racial cleavages in classrooms
University Elementary School, University of Iowa	1938	Lewin and Lippitt	Use of the sociometric test for the selection of two experimental groups for a study of autocracy and democracy
A New England village	1937-1938	Lundberg and Steele	Study of social attraction-patterns along sociometric lines
"Centerville," a Subsistence Homestead	1937	Wolman	Assignment of homesteaders to a new community
Rural Resettlement communities	1939	Loomis and Davidson	Charting of family relationships for sociometric analysis

1. Studies have been made in the following communities: Ashwood, South Carolina; Bosque, New Mexico; Cumberland Homesteads, Tennessee; Cumberland Farms, Alabama; Dyess, Arkansas; Penderlea, North Carolina; Ropesville, Texas; Klamath Falls, California-Oregon; Tortugas, New Mexico; and South Holland, Illinois. (Sociometry, January, 1939.)

Location	Time	Author	Type of Research
Wayne County Training School, Northville, Michigan	1935	Kephart	Study of group structure among retarded children
Westfield State Farms, Bedford, New York	1939	Roberts and Solby	Placement of new inmates and group psychotherapy
Cedar Knolls School, Hawthorne, New York	1939	Borden	Sociometric testing and spontaneity training
Camp Fuller, Wakefield, Rhode Island	1939	Johnson	Study of sub-group structures and assignment in camp
Dragalevtsey, Sofia, Bulgaria	1939	Sanders	Sociometric study of a woodcutting group
State Teachers College, St. Cloud, Minnesota	1939	Zeleny	Study of social isolates by use of sociometric technique
Public speaking classes, New York City	1939	Franz	Testing of classes in preparation for spontaneity training

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## QUANTITATIVE ASPECTS OF TELE RELATIONSHIPS IN A COMMUNITY

by  
H. H. Jennings

This report examines for the first time quantitative aspects of sociometric results in a community under a condition of experimentation in which the expression of tele relationships is unlimited. Previous sociometric research has treated sociometric data resulting from allowing the subjects a specific number of choices on specific criteria. The phenomenon of the tele factor, identified by Moreno, was found to be operative under the latter conditions. The present report investigates the evidence for the tele factor found when the conditions of testing call for the fullest expression of whatever tele relations are wanted or actualized by the subjects and this expression is bound by no limiting condition other than the dictates of the subjects' own feeling for others at the moment.

The statistical distribution of tele, or the inter-personal feelings of attraction and repulsion, has been shown to be affected by the tele factor. (2,3) The tele factor is the operation of the double foci in a relationship between two persons which makes one inter-personal relation, dependent upon both individuals and not the subjective, independent product of each person. It is responsible for the finding that in the statistics of configurations, the tele structures do not follow the normal distribution curve into which fit practically all other psychological phenomena so far investigated. The present report presents evidence that emotional expansiveness is itself not a phenomenon which follows the laws of chance in its distribution in a population.

The population of the New York State Training School for Girls was tested during the last week of December, 1937, under conditions allowing the full expression of all relationships wanted or rejected and covering all the criteria for association existing in the community. Each girl was allowed unlimited choices for other individuals under each of a number of different criteria. In this report only the choices for living together or working together are analyzed. The tele relations are measured by the choices.

Table 1  
FREQUENCY DISTRIBUTIONS OF CHOICES

Column 1 No. of different Individuals chosen by each subject	Column 2 No. of different Individuals choosing each subject	Column 3 No. of reciprocated choices for each subject
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	44	
	43	
	42	
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	40	
	39	
	38	
	37	
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	34	
	33	
	32	1
	31	
	30	
	29	
	28	
	27	2
	26	1
	25	1
	24	
	23	1
	22	
	21	1
	20	3
	19	3
	18	3
	17	1
	16	5
	15	14
	14	5
	13	11
	12	7
	11	7
	10	11
	9	13
	8	18
	7	15
	6	16
	5	19
	4	20
	3	12
	2	14
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		f
24	1	15
23		14
22	1	13
21		12
20	1	11
19		10
18	1	9
17	2	8
16	2	7
15	4	6
14	2	5
13	3	4
12	11	3
11	10	2
10	21	1
9	23	0
8	40	
7	32	
6	31	
5	24	
4	17	
3	8	
2	2	
1		
0		
236	236	236



The community at the time of survey consisted of 443 girls. Of this number 236 were white girls living in cottage units. In order to include only individuals living as nearly as possible under uniform conditions, this report excludes from study girls living in the hospital, receiving cottage or farm cottages; and to avoid discussion of racial differences also excludes Negro girls living in cottages of their own.

The area of choice, however, was not limited but covered the entire population of 443. Actually this number is reduced to 442, as the individual does not name herself as one with whom she wishes to associate. The advantage of so large a population is, obviously, that it provides a range in personalities so great as to be stimulating to the socially most withdrawn individuals and likewise to the socially most expansive or outgoing individuals. Secondly, as the field of study is a "closed community," the subjects are limited in the forming of relationships to the 442 other individuals of the population, and consequently the situation is uniform for all in this respect. In order further to increase uniformity of conditions for all individuals, the present report covers only the criteria of work and of living together in the same cottage unit. Other criteria, as study and play, are excluded from this report since in the Training School the program differs from one individual to another in academic studies and recreation. On the other hand, the criterion of living in a cottage has the same importance for all individuals. The criterion of work covers the area in which the girl is taking vocational training and is commonly known as "work" because it carries the implication that the girl will later earn her living in the vocation practiced in the institution. However, the role of criteria in contributing to the formation of relationships will not be treated in this report. Our concern is simply with the number of different individuals the subject expresses herself as wanting either to live with or work with or for both criteria among the 442 other individuals constituting the population. In like manner, we are concerned also with the number of individuals among the 442 who express themselves as wanting the subject on either or both of these criteria.

Under the conditions of the experiment which allowed an unlimited number of choices among the whole population of 443, the distribution of relationships wanted by the 236 subjects of this report is given in Column 1 of Table 1. It is noted that the range of expression among the 236 individuals here considered varies from 2 to 24 other persons. Only 2 girls are at the lower end of the distribution and only 1 at the upper extreme. The mean of the distribution is 7.98 other persons and the standard deviation, 3.33. Applying the Chi-Square test to the

distribution we find a probability value of less than .01, or less than 1 chance in a hundred that chance factors account for the non-normal distribution.

This finding is of particular importance. It may be interpreted as evidence that the individual's expansiveness is not a function distributed, as are some other psychological data, in accordance with a normal frequency curve. It obliges us to inquire into what there is in the nature of expansiveness which causes it to differ in this respect from other psychological functions. It may be that a normal distribution would be found in younger children and that complexity of the tele process in older children makes choice more selective and thus reduces its expression. Or perhaps we are measuring here only one aspect of expansiveness and if we were to study the whole complex function from different angles, it might be found to be normally distributed. If we had, let us say, six or more aspects of expansiveness measured, the combined score might result in a normal distribution.

It is also possible that the present finding has been affected by such factors as length of stay in the community, variations in chronological ages and in mental ages among the population, or other unknown factors. The relation of several of the factors to the problem will be explored in a later report.

Analysis of the tele expressed for the subject by others is given in Column 2 of Table 1. It is noted that the range of expression varies from none for 14 subjects at the lower end of the distribution, for whom none of the 442 other individuals give choices for either working or living with the subject, to 44 responses for one person at the upper end of the distribution. The means of the distribution is 8.07 and standard deviation, 6.34. The frequency curve deviates significantly from normality. However, in this instance, we would expect marked skewness due to the operation of the sociodynamic effect or distortion within a choice distribution in favor of a few individuals and to the relative neglect of many others.

Calculation of the Product-Moment correlation between the subject's expression of number of different individuals with whom tele relations are positive and the number of different individuals who express positive tele relations towards the subject gives an  $r$  of  $.20 \pm .04$ . The correlation is positive but negligible. There is so little correspondence that the two expressions may be interpreted as operating almost independently. It cannot be predicted that subjects seeking many tele relations with others will or will not be sought in return by a relatively greater number of other individuals than are the subjects whose expression towards others is meager. It was surprising and hardly to be expected that the two variables would

show so little relationship.

Important in considering the two aspects of tele relations, those sought by the subject with others and those sought with the subject by others, is a third aspect: the actualized or mutual tele between the subject and others. The frequency distribution of reciprocations is given in Column 3 of Table 1. It will be noted that 33 subjects' choices are unreciprocated by anyone and that one individual's choice is reciprocated by 15 others. The 33 subjects who achieve no mutual relationships with any other individuals represent 14% of the group (33/236). The mean of the distribution is 2.73 and the standard deviation, 2.55 persons.

The correlation calculated by the Product Moment method between the expression by the subject of tele responses for different individuals and the number of mutual tele responses for each subject is  $.51 \pm .03$ . This represents a fair degree of correlation and has prediction value. It may in a sense be regarded as an artifact, since one cannot enter into a pair unless one has already made a positive response. On the other hand it is interesting to see just how much the sheer number of responses contributes to the likelihood of one's entering a pair. The Product Moment correlation between the number of different individuals expressing positive tele for the subject and the number of mutual tele responses achieved by each subject is  $.59 \pm .02$ . The two variables show in this instance also a definite and positive relationship. In calculating the latter correlation, the 14 subjects who receive no tele expressions from others are not included since they could not consequently have mutual relations.

It is of interest that 6 per cent of the 236 subjects (14/236) are found to be isolated under the conditions of this experiment allowing unlimited expressing of choice on any level of preference. They are individuals who are apparently unwanted in any degree of tele expression. This finding is the first evidence that broadening the base for choice expression within a population to the fullest extent possible does not result in the discovering of some degree of positive tele towards every member of a population. It indicates that there is probably in any large population a residuum of persons who for unknown reasons do not awaken any positive tele responses towards themselves in any degree whatsoever. They are the merely tolerated if not rejected members of the community. The personality picture as a factor contributing to the individual's sociometric position in the group will be discussed in a later report. The individual who himself has no positive tele towards others occupies an even more isolated position. Among the 236 subjects here considered, there were none found in such positions.

Another type of isolation is that found in groups of mixed racial memberships where members of the minority occupy relatively unwanted positions in relation to the majority. This problem has been extensively studied through sociometric techniques by Criswell. (1) The present report excludes this aspect of tele relations.

While it is evident that there is a greater chance of being reciprocated if the individual has many tele responses toward others or if many individuals have tele responses towards him, chance alone is not a full explanation of the correlations. It is suggested that aside from the operation of chance, the subject who has greater capacity to initiate tele towards others has frequently also a greater capacity or sense for the cultivation of reciprocal response with others; likewise, the individual who attracts a greater number of positive tele responses from others towards himself is probably an individual who has also capacity for forming and maintaining mutual relationships.

Out of the findings arises the problem of examining the individual's performance in the three chief aspects of tele relations: his own expression towards others, others' expression towards him, and the expression of mutual relations between himself and others. Although the material in all three areas differs significantly from the normal frequency curve, for the purpose of the study, I have used positive and negative deviations from the mean as the nearest approach to an appropriate method of comparing the individual's performance as a whole. Such scores, it will be recognized, are not ideally suitable, but fill the need of illustrating the variation in the total results for each individual. This means of sifting out the individual differences shows particularly what one may call a "patterning" of the social atom.

Table II

Group	No. Chosen by the Subject	No. Choosing the Subject	No. of Reciprocated Choices	N.	Per Cent
I	-	-	-	68	29
II	+	+	+	50	21
III	+	-	+	22	9
IV	-	+	-	11	5
V	-	-	+	11	5
VI	+	+	-	6	2
VII	+	-	-	44	19
VIII	-	+	+	24	10
				236	100

+ above the mean.

- below the mean.

The scores for the 236 subjects are given in Table II. It is observed that 68 of the subjects or 29% fall into the pattern of negative scores (below the mean of the group) on each of the three performances. The next largest group, 50 individuals or 21%, is above the mean in all three performances. It is evident, too, that individual differences lead to different reactions on the part of different individuals when faced with similar circumstances. Individuals in Group V are less than average in score for tele response towards others and receive in return a less than average score from others, but they are able to earn an above-average score on the forming of mutual relationships. Individuals in Group I are in the same situation as individuals in Group V in respect to scores on the first two functions, but the latter group is above average on the third function. Individuals in Group III and in Group VII differ only in the third score, but the difference is in the important score for ability to actualize relationships with the persons wanted. The implications of the different "patterns" will be treated more fully in a later report. Study of Table II reveals obviously important differences in tele responses and their significance for the individuals.

The social atom may also be attacked through a comparison of its various aspects with one another. For instance, the number of individuals with whom tele relations are expressed by the subject, compared with the number of individuals who express tele for the subject constitute what may be called the ratio of balance within the social atom. If both factors are equal, the ratio is 1.00. If the subject's expression is 5 and that of others for him is 11, then the ratio of balance is  $11/5$ , or +2.20. The subject shows much more tele response expressed for him than he expresses for others, and the balance may be said to be in his favor. A second factor is the number of mutual tele responses established. If the same subject is "reciprocated" by two persons among those with whom he wants to function, he would have a rating of  $2/5$  or .40, as he has actualized only two relationships although he wants 5. A third factor is the size of the social atom, i.e., the number of individuals who want to function with the subject plus the number with whom he may want to function. In this example the number is, of course, 14. A knowledge of these three measurements would permit a construction of the individual's social atom. This method is projected as valuable in studying the individual's social atom in open communities where it is not possible to compare him with many other individuals but where it may be desirable to compare with himself at different times.

The three aspects of tele phenomena which here are quantitatively treated by the procedures mentioned constitute the positive tele responses which form together with the negative



tele responses (not treated in this report) the structure of inter-personal relationships defined by Moreno as the social atom. It is suggested that quantitative treatment can include also such factors as the size of the social atom and role of preference levels within its structure, as well as other factors which may further illuminate one or another aspect contributing to the special variations of individual social atoms.

The present report is offered as an exploratory attack on the problem. Particular stress must be placed on the fact that statistical procedures useful with most other psychological data are not equally valuable applied to tele material, as the latter is peculiarly different in several respects. There is need for an adaptation of procedures in this field of research. The most important finding, that expansiveness itself is possibly not a function distributed as are some other psychological functions in a normal frequency curve, requires a thoroughgoing investigation.

#### SUMMARY

1. This research finds that the distribution of expansiveness does not follow the normal frequency curve.
2. No correlation is found between expansiveness and choices received.
3. Correlations are reported between number of choices made and number of reciprocations, and between number of choices received and number of reciprocations.
4. Unlimited choice does not reduce to zero the number of unchosen individuals.
5. Quantitative methods are suggested in a preliminary approach to the determination of the patterns of the social atom.

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## REVIEWS

BENDER, LAURETTA, M.A., M.D., A Clinical Motor Gestalt Test and its Clinical Uses--The American Orthopsychiatric Association Monographs, No. 3, 1938, IX + 176 pp.

The author has made nine of Wertheimer's original patterns and one additional figure the basis of a performance test which she has given to normals, mental defectives, psychotic persons, children and adults at all age levels. The test consists of copying simple configurations, such as, a circle and a square touching at one point, or dots in a straight line, etc. It is interesting to observe how the insight into the whole and its parts gradually develops.

We remember that, in the Stanford scale, a four-year-old child is expected to copy a square, a seven-year-old a diamond, while a ten-year-old is expected to reproduce a more complicated design, from memory. Other intelligence tests, like the Merrill Palmer, and those of authors like Gesell, Kuhlmann and Buehler have shown similar results. Bender again demonstrates clearly the evolution of the Gestalt function at different age levels. The scribbling of children gradually becomes inhibited and confined to a limited area on the paper. No distinction can at first be observed between the drawings of the different test forms. The scribbling becomes inhibited to such an extent that the drawings resemble the test forms more and more. We see many loops in a clockwise direction which later become modified so that they finally resemble squares. Very small loops are used to indicate dots. At length a state of perfection is reached with the right sizes, distances and relative positions of the different parts.

Mental defectives and psychotic persons show many characteristic disturbances. In dementia paralytica, for instance, we often find the substitution of numbers for the dotted figures. Instead of three dots, the patient will make a figure 3. In chronic alcoholic hallucinatory states, the Gestalt, as a whole, is well perceived but the outlines are hazy, partly, perhaps, from perceptive difficulties, partly from tremulousness, and partly from the motor impulse to reiterate the lines. In schizophrenia, we find a dissociation of the Gestalt figures which often distorts them fundamentally so that the Gestalt is split. In mental defectives, early levels of Gestalt perception are often found. The test were also administered to

criminals who appeared to be simulating a psychosis. None of them was successful in neglecting the essential Gestalt principles.

This book is an interesting complement to Samuel J. Beck's book on the Rorschach method, which initiated the Monograph Series of the Orthopsychiatric Association.

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HORNEY, KAREN, M.D.: New Ways in Psychoanalysis, W. W. Norton & Company, Inc., New York, 1939, 313 pp.

The recent death of Sigmund Freud gives special prominence to an evaluation of psychoanalysis as a contribution to the establishment of a science of human nature. The emergence of psychoanalysis marks the break with inquiries into human nature practiced as an art and propounded as a philosophy, such as Aristotle's "Ethics" or Nietzsche's "Beyond Good and Evil." Whatever the judgment of future generations as to the scientific validity of Freud's methods and theories, its place as an attempt to bridge the lacuna between our knowledge of organic processes and our knowledge of mental processes is assured.

Dr. Horney must be congratulated upon her bringing into relief Freud's emphasis on the deterministic character of the subconscious-conscious relation. Her present study was motivated by a desire to extend the theoretical foundations of psychoanalysis in accordance with the emergence of the new sciences. Dr. Horney finds fault with the following two premises of Freudianism: (1) its one-sided emphasis on genesis and (2) its outmoded instinctivistic biology. She suggests a cultural frame of reference as the modern focus for psychoanalytic theories. Psychoanalysis, in Dr. Horney's view, should be concerned with the study of character formation in inter-personal relations. She suggests the study of neuroses not as a function of isolated infantile experiences but as consequences of the entire history of an individual in his cultural environment. The book attempts a detailed re-examination of the standard theories and concepts in terms of the new perspective.

In the reviewer's estimation, Dr. Horney's book constitutes a definite advance beyond Freud's type of psychoanalysis. She fails, however, to establish a genuine systematic integration of the psychological and sociological frame of reference. Such an integration will only be possible if psychiatrists follow the "psycho-biological" approach of Adolf Meyer and take cognizance of the situational interpretations of mental processes as advanced by John Dewey, G. H. Mead, and A. H. Bentley, to quote only the pioneers in the new movement. When psychoanalysis has oriented itself towards such a point of view the alternation between cultural and psychological determination will vanish forever.

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## REPORTS

### BEACON HILL, BEACON, NEW YORK

The research department of Beacon Hill Sanitarium has opened a course for the purpose of teaching the fundamentals of the psychodrama as applied to normal and abnormal problems of behavior. One class is given at Beacon in the Therapeutic Theatre and another class is offered in New York City to those students unable to travel to Beacon. The lectures are accompanied by psychodramatic demonstrations.

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### CCC HEADQUARTERS, GOVERNOR'S ISLAND, NEW YORK CITY

Dr. A. J. Murphy has published a short article on "Character Training through Drama" in the October issue of *The Adviser*, pointing out the value of the psychodrama for education in the CCC camps of this country. Dr. Murphy states: "In every camp there is a stage. Usually plays are learned by heart and reproduced. Sometimes plays are written by enrollees and then acted. It is quite possible, however, to develop certain problematic or conflict situations and have enrollees act spontaneously on the stage in response to the situations."

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### CEDAR KNOLLS SCHOOL, HAWTHORNE, NEW YORK

At Cedar Knolls, a school for delinquent girls, an attempt is being made to integrate sociometry and the psychodrama. These techniques are used as an extension of case work and in collaboration with the case workers. The sociometric technique is being used to show graphically the group structure of forty inmates and the relation of each individual to every other individual, including the staff members. Seating in the dining room is done on the basis of the girls' choices, the preferences of the isolates being satisfied first in order to improve their position in the group.

In addition, an experiment with a new type of sociometric test is being made. Instead of determining attraction-repulsion patterns in reference to concrete individuals participating in the group, the test is so constructed that the attraction-repulsion in reference to specific roles which the

participants of the group wish to have in the future is obtained. Satisfaction of these role-choices is approximated in the course of psychodramatic treatment.

The psychodrama is conducted twice a day in groups of six each. Four aims are being carried out: (1) the definition of the problem in the girl's own terms, (2) catharsis in the free expression of the problem, (3) retraining for socially acceptable roles in vocations as well as in life outside and inside of the institution, and (4) the projection of the individual into roles of the future. The last is an important addition to the material necessary for determination of time of parole. In connection with psychodramatic work, several of the more advanced students are at present writing their autobiographies. This information will be re-defined for use in the psychodrama.

Ruth Borden



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